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Contents

Role of the SPEVI Journal

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 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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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

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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 Advisory Panel and where warranted, to consulting reviewers who have particular expertise in the subject. This journal uses the "blind review" system. Reviewer feedback will be sent to the author/s with an invitation to revise the manuscript content and/or respond to the reviewers' comments. The review process may sometimes take up to three to four months. 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). Authors will be advised in writing if their manuscripts are not accepted for publication.

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Manuscript submission

Please forward your contributions for the 2017 issue of JSPEVI to the Guest Convening Editor, Dr Bronwen Scott, Email bronscott@iinet.net.au.

President's Message

Dear Readers,

With the release of this ninth volume of JSPEVI, it is time to reflect on SPEVI's activities during 2016. Two highlights were the release of SPEVI's "**Professional Standards elaborations for Specialist Teachers (Vision Impairment), Career stages**" and "**Principles and practice guidelines for quality education of learners with vision impairment**" – see http://www.spevi.net/professional-standards-elaborations/ and http://www.spevi.net/spevi-principles-and-practice/. The Position Statements serve as valuable sources of information for professionals and families regarding the educational, developmental and social implications of vision impairment, and the essential role of the Specialist Teacher (Vision Impairment). The Statements were developed by members during a 12-month period of workshops and consultation, and were officially launched at the January 2017 SPEVI Biennial Conference in Brisbane, Publications such as these however, will only reach their intended audiences if you, our members and associates, bring them to the attention of government and education sector administrators, education and allied professionals and families.

Another important publication this year was SPEVI's "**Position Statement on the role of the Specialist Teacher (VI): Ensuring the best outcome for children with vision impairment**" – see http://www.spevi.net/ndis/spevi-position-statement-on-the-role-of-the-specialist-teacher-vi/. This publication describes the important role of Specialist Teachers (VI) in promoting and supporting the rights of children with vision impairment to inclusion in equitable, quality education and social services and programs. The Statement includes a link to the Australian Government's Better Start for Children with Disability website, noting that qualified SPEVI members are entitled to register as service providers under the Better Start program.

As a membership association, SPEVI's direction, effectiveness and relevance depend on an active membership base. I therefore encourage you to infuse SPEVI with your interests and enthusiasm. SPEVI now has four types of biennial membership - Full membership; Full membership for qualified Specialist Teachers (VI) plus professional learning; Associate membership; and Honorary Life membership – see http://www.spevi.net/join/.

In closing, I wish to acknowledge with thanks the colleagueship of the Committees and Management, Councillors and SPEVI members in Australia, New Zealand and the Pacific Region. It has been a great privilege to serve as President since 2013, and the decision to step down in January 2017 has been a difficult one. I wish to recognize the significant contributions of the outgoing SPEVI Office Bearers, and welcome the

incoming Presidents, Carly Turnbull and Maria Stevens, and SPEVI Office Bearers. I look forward to continuing my contributions in the role of Immediate Past President during the 2017-19 biennium.

Frances Gentle

Editorial

Welcome to JSPEVI's ninth volume. The aim of the journal is to provide a forum for scholarly exchange among organisations and individuals who support and promote education for learners with vision impairment. In this volume the lead articles present doctoral research in the field of orientation and mobility (O&M). Scott examined the Early Years Learning Framework (EYLF) in the context of O&M instruction under the Australian Government National Disability Insurance Scheme. Scott advocated for the adoption of a strength-based and capacity-building approach by O&M professionals who are working with young children and their families. Her paper offers practical O&M strategies that can be directly linked with the EYLF learning outcomes.

Blake and Pagliano explored the potential of O&M pedagogy in inclusive educational settings. The authors present the results of their literature review into the history of O&M teaching in school settings and current pedagogical O&M approaches. The authors concluded with a call for further research into O&M pedagogical practices and methods of improving current techniques for disseminating O&M research results to parents, teachers and school communities.

The editors are pleased to include an article and report by Ben Clare, the recently-appointed Pacific Chair of the International Council for Education of People with Visual Impairment (ICEVI). Clare's work in Pacific Island Countries stretches back to 2003, when he was a member of an Australian team offering inclusive education training in the highlands of Papua New Guinea. In his article, Clare has richly described the nature and extent of current educational services for people with vision impairment in the Solomon Islands and Samoa. Furthermore, his ICEVI report summarises the organisation's activities in the Pacific region and internationally during 2016.

This volume also showcases several quality papers that were presented at the 2016 Conference of the Round Table on Information Access for People with Print Disabilities, and the joint General Assembly of the World Blind Union and ICEVI. Wormsley's WBU-ICEVI paper introduced her 2016 publication on the I-M-ABLE approach to braille literacy for learners with cognitive impairments and additional disabilities. Her paper highlights the links between the I-M-ABLE approach and the literacy approach of Silvia Ashton Warner, a New Zealand teacher of Maori children during the 1960s. Wormsley's publication is also featured in this volume's book review.

Information and Communication Technology (ICT) was a dominant theme at the 2016 Melbourne conference of the Round Table on Information Access for People with Print Disabilities. The conference paper submitted by Hughes and Taylor described Vision Australia's technology initiatives, including the digital information delivery that is referred to as the "Technology Trinity" of customers, content and channels. The second Round Table conference paper by Tellefson explored the challenges of digital literacy skills acquisition faced by members of the Victorian Deafblind Community. Tellefson reported on the successful development of iLearn Share, a peer training initiative of Able Australia's Deafblind Services team. The third Round Table conference paper by Maguire reflected on the history and rapid growth of touchscreen devices. Maguire called on the Round Table to offer leadership to the print disability sector in promoting the development of international standards and guidelines for accessible touchscreens.

This year's volume includes reports by Sonokids, HumanWare, the Royal Institute for Deaf and Blind Children, Macquarie University, the Australian Braille Authority and Reach and Match.

In conclusion, I invite you to explore the articles and reports that are presented in this ninth volume of JSPEVI. Thanks are extended to the JSPEVI Editorial Committee, Advisory Panel and authors for their work in ensuring the quality and scholarship of the articles and reports featured in the volume.

Frances Gentle

Convening Editor

Belonging, Being and Becoming: Implementing orientation and mobility within the Early Years Learning Framework - Bronwen Scott

Abstract

The implementation of the National Disability Insurance Scheme (NDIS) in Australia requires professionals working with young children who are blind or have low vision to have an understanding of best practice in early childhood intervention. This paper describes how Orientation and Mobility (O&M) specialists can make use of the Australian Early Years Learning Framework (EYLF), a document that provides a nationally consistent approach to early childhood education for children aged birth to five years and extending into the transition to school. It provides some practical examples of how this framework can be used to develop a strength-based and capacity building approach with families and early educators that are appropriate to early childhood practice and which foster early independence.

Key words: Orientation and mobility, Early Years Learning Framework, National Disability Insurance Scheme, early childhood, learning outcomes, identity, teaching strategies.

Introduction

With the advent of the National Disability Insurance Scheme (NDIS) in Australia, funding provision for services including orientation and mobility (O&M) is evolving. Within the early childhood context, transdisciplinary supports are delivered using a strengths-based and capacity building approach with families, caregivers, and early educators. It is important, therefore, for O&M specialists to have an understanding of early childhood education, and how best to work within that sector in order to provide effective services for children from birth to five years of age.

In this paper, the focus is on Australia's national early childhood curriculum, the Early Years Learning Framework (EYLF), and the potential for O&M intervention to facilitate the Learning Outcomes of the EYLF with children who are blind or have low vision. The paper refers to current literature in both the early childhood education and O&M contexts. Recent doctoral research (Scott, 2015) found that O&M intervention in the early years (including long cane mobility) facilitates the five Learning Outcomes of the EYLF. This paper focusses on Learning Outcome One: children have a strong sense of identity. Examples of specific teaching strategies are provided to demonstrate the way early O&M experiences can facilitate a sense of identity in young children who are blind

or have low vision, with an emphasis on working within a family-centred approach to early intervention.

Background

Early childhood education has been strongly influenced by Friedrich Froebel's concept of the kindergarten and his belief in the importance of play as a primary curriculum and educational tool for young children (Manning, 2005). Australian kindergartens were established across the country by 1911 (Press & Hayes, 2000), influenced both by Froebel's ideas as well as those of John Dewey (Clyde, 2000). Today, early childhood practice draws on a range of theoretical perspectives including behavioural, psychoanalytic, and constructivist approaches (Odom & Wolery, 2003).

Behavioural theory (e.g. Ivan Pavlov, John Watson, B.J.Skinner) is most evident in the areas of learning, motivation, behaviour management, curriculum development, and assessment (Strain et al., 1992). Psychoanalytic theorists (e.g., Sigmund Freud, John Bowlby) focus on the influence that emotional development in the early years has on adult lives. Relationships between infants and the primary care giver are emphasised, a view which has contributed to the development of the key worker approach currently practiced in early childhood intervention (Manning-Morton, 2011). This approach, Sloper (1999) explains, provides a single point of contact through which all professional interventions are coordinated, thereby supporting and empowering parents to make decisions based on individual family needs.

Constructivist perspectives, specifically the socio-cultural approach of Lev Vygotsky (1896-1934), argue that childhood development is culturally influenced; social interactions and relationships, particularly with family, form the basis for learning. Vygotsky's (1978) work is perhaps best known through his concept of the Zone of Proximal Development (ZDP), which suggests that it is under the guidance of adults and more capable peers that children learn to solve more complex problems than those they can achieve independently, thus progressing to a higher level of conceptual thinking. In addition, Vygotsky placed key importance on the role of language in the way children learn to make meaning of and understand their world, particularly in the formation of concepts (Corsaro, 2005). He links the development of language to the way children use tools to achieve goals, arguing the "most significant moment in the course of intellectual development...occurs when speech and practical activity, two previously completely independent lines of development, converge" (Vygotsky, 1978, p. 24). This notion is particularly relevant when thinking about early O&M intervention, supporting Anthony et al. (2002), Cutter (2007), and Scott (2015) who argued that early long cane mobility facilitates concept development in children who are blind or have low vision.

The Early Years Learning Framework, or EYLF (2009), draws on a range of these theoretical influences, thereby encouraging educators and practitioners to think reflectively and engage in ongoing learning in regards to their professional practice. As Greishaber (2010, p. 34) explains, the EYLF departs from traditional early childhood education approaches in five ways:

1. ‘Free’ play and play-based learning,
2. Child development and learning,
3. Free play and intentional teaching,
4. Outcomes to plan learning, and
5. High expectations and equity.

Following, the Learning Outcomes of the EYLF are described, together with some examples of how specialist educators and O&M specialists working with this age group can use these learning outcomes to promote high expectations and equity through the development of independent mobility skills.

Research background

Scott (2015) explored experiences of early childhood O&M intervention from the perspectives of young children, their parents, and specialist visiting teachers within the context of an early childhood educational program in Western Australia. Using a qualitative approach, data were collected via semi-structured interviews, children’s written stories, archival video and document material, and thematically analysed to explore individual experiences and stories. Four findings were presented: very young children can successfully learn O&M techniques including long cane mobility; the acquisition of these techniques facilitate the outcomes of the EYLF; early O&M is a foundational component of the expanded core curriculum (ECC); and the introduction of early O&M techniques can potentially change perspectives toward blindness as young children become confident travellers independently accessing their own learning.

To date, O&M practice with the early years’ age group in Australia has been inconsistent at best. This is partly a reflection on the rehabilitation origins of the O&M profession (Bledsoe, 2010), and a combination of uniquely Australian challenges. Most education departments in Australia require O&M specialists to have teacher qualifications in order to be directly employed within the education system, despite the recognised shortage of such personnel (Scott, 2009; Wells, 2008). O&M intervention with children, therefore, continues to be primarily situated within the allied health context of blindness agencies (Deverell & Scott, 2014), with O&M training courses in the Australasian region delivered inconsistently (Deverell, Scott, Battista & Hill, 2014). However, for O&M specialists to operate effectively within the new funding environment of the National Disability Insurance Scheme (NDIS), there is a need for both existing

and new practitioners to upgrade their knowledge and skills to develop a solid understanding of best practice in early childhood intervention.

The National Disability Insurance Scheme (NDIS)

The provision of disability services in Australia is a changing landscape with the implementation of the National Disability Insurance Scheme (NDIS) being progressively rolled out across the country. Under this scheme, funding is provided directly to individuals rather than to service providers as has previously been the case. Effectively, this enables participants to have more choice and control over the provision of their supports. In February 2016, the National Disability Insurance Agency (NDIA) released its Early Childhood Early Intervention (ECEI) Approach, a “single, best-practice approach to early childhood intervention to meet individual needs” (National Disability Insurance Agency, 2016, p. 2). It is recommended early childhood supports are delivered through a family-centred approach, emphasising functional outcomes that develop individual family and caregiver strengths so children have the opportunity to learn and use functional skills within their everyday environments. These environments are primarily a child’s home, local community, and early childhood education and care (ECEC) settings (Moore, 2012). The remainder of this paper will focus on the delivery of services in ECEC settings, outlining the principles and practice underpinning Australia’s national early childhood curriculum, the EYLF, and providing some ideas for the ways O&M intervention can be implemented within that framework.

The Early Years Learning Framework

The Australian Early Years Learning Framework (EYLF), the first national early years’ curriculum, was developed in 2009 (Grieshaber, 2010). Titled "Belonging, Being & Becoming”, the document aims to "extend and enrich children's learning from birth to five years and through the transition to school" (Council of Australian Governments, 2009, p. 5). The EYLF draws on a range of early childhood development theories, and is comprised of three inter-related elements: principles, practice, and learning outcomes.

The Framework begins by outlining five principles of early years’ practice:

1. Prioritising and providing children with secure, respectful and reciprocal relationships.
2. Developing and respecting partnerships between educators and families.
3. Commitment to high expectations and equity so all children have opportunities to achieve.
4. A respect for diversity which honours individual families and their communities.

5. Commitment to ongoing learning and reflective practice.
   (Council of Australian Governments, 2009, pp 12-13).

O&M specialists without educational backgrounds who are working with young children need to familiarise themselves with these principles, which in turn underpin the second element of the EYLF - practice. Here, the document draws on a range of early childhood pedagogy, identifying that children's learning is best promoted by:

- adopting holistic approaches,
- being responsive to children,
- planning and implementing learning though play,
- intentional teaching,
- creating physical and social learning environments that have a positive impact on children's learning,
- valuing the cultural and social contexts of children and their families,
- providing for continuity in experiences and enabling children to have successful transition, and
- assessing and monitoring children's learning to inform provision and to support children in achieving learning outcomes.

(Council of Australian Governments, 2009, p. 14).

The third element of the EYLF outlines the five learning outcomes for children aged from birth to five years:

- Children have a strong sense of identity.
- Children are connected with and contribute to their world.
- Children have a strong sense of wellbeing.
- Children are confident and involved learners.
- Children are effective communicators.

O&M practice can be directly linked to all these broad outcomes, however for the purposes of this paper, the intention is to focus on Outcome One: children have a strong sense of identity.

Children's Identity and O&M Intervention

Identity as a concept within the EYLF is expressed within three constructs: belonging, being, and becoming. **Belonging** acknowledges the importance of relationships in defining a child's identity, be that family, culture, neighbourhood or community. **Being**

highlights the significance of the “here and now” (Council of Australian Governments, 2009, p. 20) in children’s lives – how children engage with daily life, develop relationships, and meet challenges. **Becoming** recognises the rapid and significant changes that occur during the early years, the development of our future adult selves. When considering O&M intervention in the early years these three constructs are significant.

Joseph Cutter (2007) identifies the goal of early childhood O&M development as “the independent movement and travel in blind children at an age/stage appropriate time so that children develop the perception of themselves as active movers and independent travellers” (p. 2, emphasis added). The EYLF recognises that identity “is shaped by experiences” (Council of Australian Governments, 2009, p. 20), many of which are encountered through child-initiated free play and play-based learning (Grieshaber, 2010). Numerous studies on the play behaviour of children who are blind show they engage less frequently than sighted peers in manipulative and symbolic play (Celeste & Grum, 2010), therefore there is a high risk that independent participation in play-based activities will be limited if O&M skills and techniques have not yet been established and there is an over-reliance on adult intervention. Children who are blind or have low vision, therefore, need to have the skills, ability, and confidence to execute independent O&M action during these early years in order to participate independently in play and develop an identity of themselves as an active mover and independent traveller.

Identity is also strongly influenced by a child’s relationships with significant others such as family, caregivers, and educators. The importance of these relationships is recognised within the EYLF concept of “becoming”, which explains that children’s experiences are shaped by the “guidance, care and teaching by families and educators” (Council of Australian Governments, 2009, p. 20). O&M specialists working with this age group can support parents and significant others to develop a child’s O&M skills through appropriate everyday experiences and opportunities (Dinnebeil, 2009). The following strategies are examples of ways in which this support can be achieved.

O&M Strategies

The EYLF Learning Outcomes are each broken down into sub-outcomes. Outcome One: ‘Children have a strong sense of identity’ has the following sub-outcomes:

- Children feel safe, secure, and supported.
- Children develop their emerging autonomy, inter-dependence, resilience and sense of agency.
- Children develop knowledgeable and confident self-identities.
- Children learn to interact in relation to others with care, empathy and respect.

Table 1 outlines some teaching strategies for O&M specialists that can assist them to link their practice to the EYLF Learning Outcome One. These should be implemented through a combination of direct teaching in addition to capacity-building with parents and significant others so skills are consistently reinforced during daily routines.

Table 1

Strategies for linking early O&M with the Early Years Learning Framework

EYLF Learning Outcome One: Children have a strong sense of identity		
EYLF Sub-Outcome	**O&M for children under 2 years**	**O&M for children over 2 years**
Children feel safe, secure and supported.	Be comfortable in spending time with infants and their families. Be sensitive and respond to infants' cues and signals so they can learn to feel secure in your presence. Encourage early concept development through appropriate play - for example, reaching to a noise-making toy. Implement O&M skills, techniques and language within predictable daily routines.	Respond with sensitivity to children's attempts to initiate interactions and conversations. Encourage children to explore their physical environment through play. Expand O&M skills, techniques and language into more complex predictable daily routines.
Children develop their emerging autonomy, inter-dependence, resilience and sense of agency.	Leave the cane in the child's home so they can play with it over and over and feel confident with using it. They can persist with it when they don't master it the first time. Provide different strategies for active movement - being guided, trailing, using a mobility aid.	Once children are moving independently, allow them to make discoveries for themselves and ask questions. Get excited about their discoveries! Encourage children to make choices and decisions about how they move through their environment. Develop mini-routes to

EYLF Learning Outcome One: Children have a strong sense of identity		
EYLF Sub-Outcome	**O&M for children under 2 years**	**O&M for children over 2 years**
		encourage independent travel within the child's daily routines.
Children develop knowledgeable and confident self-identities.	Use songs and rhymes that refer to blindness, O&M, long canes. For example, poem cards adapted from 'Travel Tales' (Halpern-Gold, Adler & Faust-Jones, 1988) for age appropriateness. Ensure children feel proud and confident about their O&M achievements.	Use songs and rhymes that refer to blindness, O&M, long canes. For example, poem cards adapted from 'Travel Tales' (Halpern-Gold, Adler & Faust-Jones, 1988) for age appropriateness. Encourage children to understand and talk about their eye condition to others.
Children learn to interact in relation to others with care, empathy and respect.	Ensure one-to-one interactions with the child are initiated thoughtfully – verbal pre-warning before touching, hand-under-hand techniques. Model correct techniques for others.	Encourage interaction between child and sighted peers. Explain the use of the long cane, allow sighted peers to 'play' with the cane and learn how it is used. Assist others to support the child to join in play and social experiences.

Strategies to support early long cane mobility

For children who will be long cane users, three strategies can assist in the development of a strong self-identity: using a 'teaching cane', using coloured or decorated canes, and naming the cane.

Using a teaching cane

The concept of using a 'teaching cane' as a first introduction to long cane travel was introduced by Cutter (2007). This can begin with an infant being carried by their parent

being encouraged to touch and explore an adult size cane which the parent is using as they walk. Gradually, the child copies the parent's action with the cane, tapping and sliding it and learning how to interpret environment information being received through the cane tip. Teaching canes can be used by the O&M specialist, parent, or early educator, with an older child, who either co-actively 'helps' the adult to use their cane, or copies the adult technique with their own cane. Introducing early long cane mobility skills in this manner allows children to explore long cane use in their own time, as well as empowering parents, caregivers and educators in their own understanding and acceptance of long cane use.

The teaching cane is a useful strategy in the development of "secure, respectful and reciprocal relationships" (Council of Australian Governments, 2009, p. 12) between O&M specialists, children, and their families. Charon (2010) explains that early experiences and interactions are important because the child begins to take the perspective of significant individuals, generally role models that include parents and teachers. The relevance of this to early long cane mobility is that "the child acts towards objects in the world" (Charon, 2010, p.78) in the same manner as their role models. They begin to develop an understanding of what is important in the lives of their role models through social interaction, and become aware of how the long cane is perceived by others as they learn to interact with their canes in different social situations. Parents and educators can use the teaching cane to engage and promote children's learning about long cane mobility, and begin fostering their child's identity as a competent long cane traveller.

Coloured canes

The long cane is traditionally white, and there is a significant amount of literature exploring the white cane as a stigmatising symbol (Goffman, 1963; Moore, Constantino & Crisp, 2000; Wong, Guymer, Hassell & Keefe, 2004; Bennion, Shaw & Gibson, 2012; Southwell, 2012). However, this research predominantly refers to adults with acquired vision loss. Recently, and particularly in Australia, there has been an increase in the availability of long canes in colours other than white; Borkowski (2009) provides a comprehensive overview of this development.

The use of coloured canes can help young children to personalise and develop a sense of ownership toward it, and can also provide an opportunity for a conversation starter, eliciting positive social responses from adults who may potentially feel uncomfortable with a child's blindness (Scott, 2015). Gelman, Manczak, and Noles (2012) establish that "by age 2 years, ownership confers special…value to an object for the owner" (p. 1745). As ownership has been strongly linked with self-identity (Constable, Kritikos &

Baylis, 2011), the strategy of using colours can help children to accept the long cane as an important object in their lives.

Naming the cane

An additional strategy that can assist in developing a sense of ownership and pride toward long cane use is that of ‘naming’ it. Denzin (2010) explains that the development of ownership by children to “valued social objects” (p. 101), be that a treasured toy or their long cane, is an important step for them to perceive themselves as a distinct being, separate from their peers and adults. Having a cane with a name allows a child to interact socially with others around its use, and to indicate to others that their long cane is important to them. Furthermore, children begin to develop a sense of agency toward their own mobility as they learn the long cane allows them to make choices and actively engage in their own learning (Scott, 2015).

Fostering positive experiences toward long cane mobility through the use of these three strategies takes us back to the core constructs of identity in the EYLF: belonging, being and becoming, and supports children who are blind or have low vision to develop a strong sense of identity as independent travellers.

Conclusion

To work within the best practice parameters of the Early Childhood Early Intervention Approach of the NDIA (2016), it is important that the O&M profession in Australia develop new ways of practice that focuses on a strength-based and capacity-building approach with families. The purpose of this paper was to provide a broad overview of the Australian Early Years Learning Framework (Council of Australian Governments, 2009), exploring some specific examples of how O&M specialists can provide effective intervention within that framework. These examples were provided in relation to Learning Outcome One of the EYLF: ‘Children have a strong sense of identity’. The EYLF also encourages O&M specialists to promote a child-centred approach to mobility, supporting children to access their own learning via appropriate O&M skills and techniques. This in turn begins the foundations of self-determined behaviour, which is, along with O&M, a core domain of the expanded core curriculum (Sapp & Hatlen, 2010), and essential for independent participation in life.

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Bronwen Scott, Ph. D.
Orientation & Mobility Specialist, Independent Options for Mobility
Carlton North, Victoria, Australia 3054
Email: bron@options4mobility.com.au

Does Orientation and Mobility have more to offer school students than just orientation and mobility? - Katrina Blake and Paul Pagliano

Abstract

Orientation and Mobility (O&M) in school education is traditionally described as a separate expanded core curriculum subject taught by specially trained instructors and/or teachers. O&M usually involves one-on-one teaching where the student learns by doing. Pedagogy is defined as the discipline that focuses on identifying the best ways to teach subject areas to groups of students. The pedagogy of O&M is therefore specifically designed to identify the most effective teaching strategies and approaches to enable students with vision impairment (VI) to learn how to independently and safely travel within their community. In this paper the author argues that O&M pedagogy may provide all teachers, not just those who work in O&M, with a potentially rich, yet currently largely untapped set of strategies and approaches. The paper concludes with a call for research to help ascertain which O&M pedagogy could be more gainfully employed to support students with VI in inclusive settings, and how this pedagogy might be more readily made available to teachers.

Key words: Orientation and mobility, vision impairment, pedagogy, inclusion

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Introduction

In this paper, I argue that Orientation and Mobility (O&M) pedagogy may provide all teachers, not just those who work in O&M, with a potentially rich, yet currently largely untapped set of strategies and approaches. This O&M pedagogy, it is argued, could be gainfully employed with children with vision impairment (VI) in inclusive settings. The paper begins by providing an overview of O&M, then focuses in on O&M in school education. This is followed by an outline of pedagogy, which then leads into a discussion about the pedagogy of O&M. Next, I highlight examples from the literature

that illustrate how O&M pedagogy might be of value in regular classrooms. The paper concludes with a call for research in this area.

What is O&M?

O&M is thought to have originated in 1947 as a way to progress the rehabilitation of US veterans blinded in the Second World War (Welsh & Hudson, 2011). Since then, the long white cane has been synonymous with VI, blindness, and the discipline of O&M. Yarbrough (2013) supports this notion arguing that mobility involves the technical skills required to move safely through space. Specifically, the attainment of long cane skills continues to form the basis of contemporary formal O&M assessment, checklists, curriculums, research and training programs (Wiener et al., 2010).

O&M specialists notoriously refer to O&M as long cane travel skills (Lahav, Schloerb, & Srinivasan, 2015). Using qualitative research methodology Kircher-Herring (2015) surveyed 21 O&M specialists' to better understand their perspective of O&M. These O&M specialists overwhelmingly identified the long cane, road crossings and public transport skill development as components of O&M. However, O&M is more than these aspects of mobility. O&M is a highly specialised, unique, and multidisciplinary field with a long and credible professional history of teaching and learning for students with VI (Wiener et al., 2010).

How does O&M fit in with school education?

Orientation emerged as a significant aspect of O&M teaching and learning with the introduction of public school specialist teaching in the 1960's (Wiener et al., 2010). Initially, orientation was identified as the "process of using sensory information to establish and maintain one's position in the environment" (Hill & Ponder, 1976, p. 3). Though this early definition is still cited throughout the current literature (Griffin-Shirley, Kelley, & Lawrence, 2006; Hill, 2015; Kircher-Herring, 2015) several alternatives have also been suggested. For Anthony, Bleier, Kish, Pogrund, and Fazzi (2010, p. 327) orientation is "knowing oneself as a separate being, where one is in space, where one wants to move into space, and how to get to that place". Likewise for Crudden (2015) and Lahav et al. (2015, p. 1), orientation is the cognitive and "systematic collection of information" from the environment".

The core academic curriculum in Australia is recognised as the Australian Curriculum. The Australian Curriculum (Australian Curriculum and Reporting Authority, ACARA, 2017) sets the expectations for students to develop the knowledge, skills, and understanding to be able to contribute to a "democratic, equitable and just society". Several propositions drawn from the Melbourne Declaration on educational goals for young Australians (Ministerial Council on Education Employment Training and Youth

Affairs, MCEETYA, 2008) underpin the Australian Curriculum. These propositions identify the importance of the individual needs of every student, and the prominence of pedagogical practices that account for students' needs, interests, and contexts. Sapp and Hatlen (2010) argue however, that the needs of students with VI are broader than the traditional academic learning areas.

Towards the end of the 20th and 21st Century, Australian and International governments and organisations ratified certain conventions which stipulated the rights of people with disability, the rights of the child, and standards for education (Australian Human Rights Commission, 2015a, 2015b, 2015c, 2015d; **Department of Education and Training, DET, 2017;** Office of the High Commission, 2017; **Queensland Government, 2017;** United Nations Children's Emergency Fund, UNICEF, 2001, 2008). Together these acts recognised that the education of students who are blind or VI requires supplementary learning in addition to core curriculums. The DET (2005, p.2) specifically states that "educators need to provide personalised learning that aims to fulfil the diverse capabilities of each student". Hatlen (2006) argues supplementary instruction to the core curricula is required to address the unique and specialised capabilities of students who are blind or VI.

These supplementary areas of learning for students who are blind or VI are now recognised as the expanded core curriculum (ECC). Sapp and Hatlen (2010, p. 342) maintain the development of the ECC competencies for students who are blind or VI is the "difference between life and a successful life". The South Pacific Educators in Vision Impairment (2016) professional standards for specialist teachers of VI identifies knowledge of the ECC as essential disability specific knowledge for specialist teachers of the vision impaired. In addition, the Department of Education and Training (DET, 2017) explicitly addresses the ECC as part of students' education adjustment profile. There are nine basic competencies included in the ECC. O&M is a prominent feature of these competencies. For Sapp and Hatlen (2010, p. 347) "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".

O&M has been designated an integral part of the ECC. The Individuals with Disabilities Education Act (IDEA) commissioned into US law on Dec. 3, 2004, operational from July 1, 2005, nominated that O&M be considered for all students who are blind or VI (Ambrose-Zaken, 2016; Trief, Lisi, Cravello, & Yu, 2007). The Individuals with Disability Education Act (2004) specifically defines O&M as a related service, identifies the O&M specialist as not only fundamental to the student's teaching and learning team but best equipped to provide O&M services. This is further elaborated by Emerson and Corn (2006, p. 340) who explain that O&M specialists scaffold students who are blind or VI to

maximise their perceptual capabilities to “assess situations dynamically and decide on the best course of action.”

What is pedagogy?

The word pedagogy is derived from the Greek word **paidagogos** meaning teacher of children, and involves the why, how, and when of teaching and learning (MacNeill & Silcox, 2003). According to the Queensland Government (2013), pedagogy also includes the philosophical values and beliefs about teaching and learning; the procedures, essential practices and strategies for teaching, monitoring and assessing; and the learning goal set of both the teacher and the student. Without essential teaching practices “we cannot expect students to know themselves or their world” (Fisher, 2014, p. 4).

What is O&M pedagogy? How is it different?

Students with VI have a range of functional vision abilities with only a small number identified as totally blind (Hall-Lueck, 2004). Vision impairment is defined in two main ways. These are visual function and functional vision. Visual function typifies a medical or clinical diagnosis and is often described quantitatively as either the loss of organ function or the degree of available vision (Hall-Lueck, 2004). Alternatively, functional vision is a qualitative description of a person’s visual behaviours or changes in visual behaviours. Functional vision involves observation of a person’s visual skills and abilities across different dynamic real world environments and is affected by multiple variables (Hall-Lueck, 2004). Attending to, and scaffolding the students’ use of their functional vision is the primary expertise of O&M teachers and specialists.

Specialists generally acknowledge that vision is a unifier of sensory modalities, a primary learning sense, and a major element in incidental learning (Dodd & Conn, 2000; Mclinden, 2012). Also, widely accepted, is the idea that vision powerfully and positively impacts on learning and development (Erickson & Hatton, 2007; Koustriava & Papadopoulos, 2012). Students with VI tend to miss out on the affordances of vision and therefore must develop and learn alternatives to the predominant visual perceptual strategies for gathering and processing information. This area of gathering and processing environmental, social or cultural information or ‘texts’ is where O&M comes in. Providing alternative learning strategies to students with VI, such as multiple and repeated experiences with manipulatives, paired with explicit language, and scaffolded by a knowledgeable other is a major component of O&M pedagogy (Tobin & Hill, 2012; Wiener, Welsh, & Blasch, 2010).

O&M teaching and learning has been recognised as an essential competency for students who are blind or VI. Trief, Lisi, Cravello, and Yu (2007, p. 620) contend that

O&M is a “vital part of the [student’s] educational plan”. O&M teaching and learning provides a framework for experiential exploration and understanding. O&M uses a shared language to attend to and build on students’ experiences of the world. As Ball and Nicole (2015) explain, the foundation of O&M pedagogy is to increase participation, autonomy and self-determination for students who are blind or VI. For Smith (2006, p.164) O&M thereby provides an abundance of situations that require students to problem solve. The Australian Curriculum specifically stipulates that the goal of education in Australia is for students to become successful learners, confident and creative individuals, and active and informed citizens (DET, 2017). Hence O&M teaching and learning plays a fundamental role in assisting students who are blind or VI to achieve these educational aims on the same basis as their sighted peers.

Examples

For Dewald et al., (2015) the O&M teacher needs to begin working with the child with VI from a young age. They maintain that O&M must be part of the students’ plan, beginning as soon as possible after birth. They write:

> …it became apparent that waiting until they were walking and ready to use a white cane was not early enough to refer them for O&M services, since many of the children were not moving about and exploring their home environments. … beginning O&M training early would help overall development and set the stage for exploration and movement. (Dewald et al., 2015, p. 503)

In addition to the O&M teacher playing a pivotal role in helping the child develop of basic concepts that are essential for purposeful movement and exploration, many O&M specialists work closely with the child’s family within the child’s own natural environment. Many of the foundational concepts of O&M relate directly to mathematics. These then become the building blocks of understanding number and higher order problem solving thinking.

Smith (2006) provides numerous examples from the literature to illustrate how O&M pedagogy can be used to develop mathematical concepts, and how mathematics can be used to develop O&M skills. Smith (2006, p. 161) emphasises the importance of “The general mathematics teacher and O&M specialist” working “together to integrate their lessons so that students who have visual impairments can make connections in both settings”. These connections enable the child with VI to understand how the mathematical concepts can be applied in the real world. Smith argues that O&M teachers can support students who are blind or VI to make direct connections between their mathematical knowledge and their ability to travel independently, traveling do.

Ball and Nicolle (2015) argue that O&M plays a vital role in ensuring that students with VI have the skills to more fully engage in social inclusion, to think of themselves as “normal” (p. 297). It is a process of “co-construction”. Rather than the student relying on sighted others to enable them to function, they develop the functional skills themselves. This then means they are free to focus more on the personal and social aspects of relating to peers rather than being dependent on others to attend to their functional requirements.

Conclusions and recommendations

A review of contemporary O&M theories and practices indicates that O&M skills require specialised and targeted learning and teaching (Brannock & Golding, 2000; Kircher-Herring, 2015; O'Mea, 2013; Pogrund & Fazzi, 2010; Yarbrough, 2013). A further review of teaching and learning practices indicates that students who are blind or VI require targeted teaching to achieve the same conceptual understandings as their sighted peers (Hatton & Erickson, 2007). While developmental checklists (Nielson, 1998; Pogrund & Fazzi, 2010) and assessments (Anthony et al., 2010; Bischof, 2008) identify the curriculum and the foundational conceptual skills necessary for competent O&M, there remains little documentation and evidenced based research on the pedagogy of teaching and learning O&M for students with VI. For Fisher (2014), great things can be expected of students who are provided with essential pedagogy. O&M teaching and learning provides one approach to essential pedagogies for students with VI.

Despite the mandated adoption of inclusive schooling (MCEETYA, 2008) in Australia, many students with VI continue to experience substantial difficulties with literacy, numeracy, self-determination, and employment outcomes. This is evidenced in the American National Longitudinal Transition Study (2nd) which reports that students with VI achieved on average the 30th percentile for literacy and 40th percentile for numeracy, with approximately, 60% of all students with VI below the reading ability for their age group (American Foundation for the Blind, 2015). Furthermore, American statistics report that approximately “38% of working-age adults with [VI] are employed, compared to 76% of adults without disabilities” (Cmar, 2015, p. 1) with no evidence of improvement over recent years (Lee, Erickson, & von Schrader, 2014). These sombre statistics therefore raise questions on the actuality of equitable and inclusive teaching and learning practices for students with VI.

The links between literacy and numeracy achievement, employment outcomes and economic sustainability are well established and recorded in the literature (Masters, 2009; Rowe, 2006). More significantly Erin (2015) argues that for students who are blind or VI there is a link between competence in independent travel and future employment. Investigation into augmentative alternative teaching and learning approaches to help

ensure that students with VI have the same or equivalent repertoire of basic concepts as their sighted peers is imperative. This position paper advocates that O&M be considered one such approach.

To facilitate education for students who are blind or VI which is “easily accessible, ensures equal opportunity, encourages highest potential, and enables self-sufficiency” (Pagliano, 1997, pp. 158-159), I advocate for further research into O&M pedagogical practices. I call on research to specifically ascertain which O&M pedagogy could be more gainfully employed to support students who are blind or VI in inclusive settings, and how this pedagogy might be more readily made available to parents, classroom teaching professionals and school communities.

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Katrina Blake
PhD Candidate
James Cook University, College of Arts, Society and Education
Advisory Teacher O&M, COMS, Master Ed., Master Autism Studies
Department of Education, QLD, Australia
Email: katrina.blake@jcu.edu.au

Paul Pagliano. Ass Prof.
Co-Author and Supervisor
DipT (MGCAE), DipANZAEVH Braille, ADPA Dance
(BCAE), BEdSt (QLD), MEdSt (QLD), PhD (JCU)
James Cook University, College of Arts, Society and Education
Email: paul.pagliano@jcu.edu.au

Education of people with disabilities in Pacific Island Countries - Ben Clare

The islands of the Pacific Ocean comprise some of the most remote locations in the world. The region, collectively known as Oceania stretches from Australia to Hawaii and includes thousands of inhabited and uninhabited islands and atolls. The majority of the Oceania region is made up of independent states, all of which except the Kingdom of Tonga were former colonial territories of various European countries and the Americas. The United States, United Kingdom and France continue to administer Pacific Island territories. New Zealand, which is located within Oceania, administers the external territories of Niue and the Cook Islands. Australia, Oceania's most populous nation, administers Norfolk Island.

The islands of the Pacific were attractive to European explorers who ventured eastwards in search of new territory for the export of convicts and to strengthen the empires through the acquisition of territory and exploitation of natural resources and native personnel. Due to their location, the Pacific islands were difficult to access, what with lengthy journeys by boat to the region and between islands and uncertainty as to what extent the islands supported human habitation. While modern advances in technology, transport and human society have resulted in making the world a smaller and much more accessible place, the islands of the Pacific are relatively remote, far from the major population centres of the world, and isolated from large scale economic development. Life for a large majority of Pacific Islanders remains traditional in nature. Ancient customs are still practised, subsistence farming is common and many native languages remain intact. In countries where tourism has become a major economic activity, western culture is slowly becoming more prevalent.

The geographical isolation of Pacific Island Countries together with limitations in economic development has resulted in barriers to the provision of basic and essential local community services such as education. While the United Nations stipulates that every child has the right to a free education, this is difficult to achieve in rural and remote island communities that lack of funds to build and operate educational facilities. For children living in such locales, opportunities to attend school and gain literacy and numeracy skills are very limited. Instead, children engage in more traditional activities, centred on ensuring their survival through the provision of food and supporting family members. While it can be successfully argued that a child can be educated without the existence of formal schooling, it should be remembered that access to a basic education has the potential to improve the quality of life of an entire village or country through increased knowledge and interaction across communities and with the outside

world, sometimes resulting in sustainable trade and increased capacity for local communities to support themselves.

For children with disabilities, access to education is even more of a challenge. Accessible school buildings, essential equipment for learning and trained school staff are unavailable in many areas, and the belief that children are unable or incapable of being educated often presents additional barriers to inclusion, both within education and more broadly in local societal activities. Despite this, children with disability do not always live a life of isolation and exclusion. In many Pacific Island countries, children with disabilities are seen as special and taken care of by elderly family members or villagers who see it as an honour to help someone who is considered less fortunate than themselves. Although it is unlikely someone with a disability would play an active role in village life, some people, depending on the nature of their disability, may be assigned village responsibilities. For example, a blind or vision impaired child may be responsible for carrying water from a well with guidance from a family member or fellow villager. A hearing impaired person may assist with the construction of huts and other physical work. Others may pick fruit or assist with cooking activities. Often the person with disabilities is pitied by others and whenever an activity is carried out independently, it is seen as a major achievement. It is widely believed that people with vision impairment have a talent for music and this is sometimes encouraged with singing or playing traditional instruments a common activity. For someone with a more profound disability or multiple disabilities, quality of life is very different. Depending on the nature of the disability, it is likely the person will not live to an acceptable age due to the lack of medical services and the belief the person is better off dead and not suffering. Despite this, care is often taken to ensure the person is as comfortable as possible.

In recent times, the need for educational services for people with disabilities in the Pacific has been recognised and significant changes are in progress. In most countries, advocacy groups, often known as Disabled People's Organisations (DPOs) are working closely with local communities, national governments and international organisations to promote human rights and improve access to essential services. These advocacy groups are made up of people with various disabilities who are aware of the issues affecting them and possess a passion for improving conditions and social inclusion of people with disabilities. The DPOs are often supported financially by local and foreign donors, with logistical support from the Pacific Disability Forum (PDF), a Fiji-based umbrella organisation of DPOs and organisations promoting the rights of people with disabilities. The PDF, together with its member organisations from around the Pacific, is responsible for a marked increase in public awareness of disability issues and the rights of all people to a barrier free, fully inclusive society, regardless of gender or disability.

DPOs and disability service providers, although operating in very challenging financial conditions, have contributed to the increased involvement of people with disabilities in the community. Non-government service providers are often responsible for the provision of education services as many public schools in the Pacific region continue to not enrol children with disability. While parts of the regular school curriculum are taught by such service providers, activities generally focus on disability-specific special education. For example, Braille literacy is taught to blind children and sometimes adults who attend a centre, usually located in the capital city or large provincial town. Such services are generally only available to those who are able or who can afford to make the journey, however a small number of service providers have access to occasional transport and visit villages to conduct activities at home. In general, special education teachers and support staff have no formal training, but rather have significant knowledge of disability and its relationship to local conditions. Sometimes a staff member may have the opportunity to attend conferences or workshops overseas, but the majority call on their local knowledge, observation of others and their dedication to the job. Staff members may be underpaid due to the funding limitations of disability service providers. In many cases, service providers rely on funding from international donors and local authorities in conjunction with fundraising activities. In some instances, enrolled students may assist with fundraising by performing musically at public events or making handicrafts which are sold in local markets.

Another barrier to quality education service provision for people with disabilities is the high cost of essential equipment. A Braille writing machine for instance, is often well beyond the operating budget of fledgling disability service providers that are struggling to meet staff salaries. Other essentials such as hearing aids, wheelchairs and educational materials are also difficult to procure and foreign donations are often relied upon for the provision of such equipment.

In recent years, public awareness of disability issues has increased and this is having a positive effect. One such activity being undertaken in several Pacific Island countries is inclusive education for all with disability, in accordance with the 2006 United Nations Convention on the Rights of People with Disabilities (UNCRPD). Governments in the region are working closely with foreign donors and disability groups to implement inclusive education policies which will hopefully result in large numbers of children with disability attending school. In some countries in the Region, disability service providers will be responsible for the upskilling of school teachers in disability-inclusive teaching methods. In the Solomon Islands, Samoa and Kiribati, an inclusive education component has been added to the teaching degree offered at local universities. In Fiji and Papua New Guinea, education ministries have compiled extensive inclusive education policies and are in the process of implementation at school level. Another

initiative is the Education for All Children with Visual Impairment (EFA-VI) campaign, jointly launched by the World Blind Union and the International Council for Education of People with Vision Impairment (ICEVI) in 2006. This campaign seeks to boost school enrolment and retention rates for children with vision impairment. Fiji and Papua New Guinea are the current focus EFA-VI countries in the Pacific region, with EFA-VI activities also offered in other Pacific Island countries.

Education of people with vision impairment in the Pacific

In the Pacific region, it is very difficult to form an accurate picture of the numbers of people living with vision impairment. Geographical challenges, the lack of information relating to disability collected on census documents and family reluctance to disclose disability all contribute to the lack of reliable data. Disability service providers, some of which have been in existence for many decades, are largely responsible for the provision of education services to blind and visually impaired people in the Pacific region. Depending on the provider's budget, various activities are undertaken, ranging from independent living to Braille literacy.

In the past ten years, disability awareness has contributed to an increase in educational opportunities for blind and vision impaired people. Through donations and partnerships, service providers have been able to increase the scope of activities offered to clients, including the introduction of training in the use of computers with voice output and enrolment in mainstream education with support and teacher training provided. Personnel working for disability service providers have also had the opportunity to engage in formal training and skills exchange with fellow professionals at national and international levels.

Presented below is an overview of service provision for people with vision impairment in the Solomon Islands and Samoa, with several case studies provided to illustrate the lives of people with vision impairment in both countries.

Solomon Islands

The Solomon Islands are a large archipelago located to the north of Australia and east of Papua New Guinea. The capital city of Honiara is located on the island of Guadalcanal and has an estimated population of 50000 residents. The vast majority of the nation's population of 450,000 live in remote villages on isolated islands, far from access to land transport, running water and other basic amenities. Subsistence farming is the extent of the local economy in most areas and traditional trading using shells as currency is still practised on some islands. The Solomon Islands, like many countries in the region, faces significant challenges when it comes to meeting the needs of people with disabilities. Issues including geographical difficulties, a lack of trained personnel,

high unemployment and the cost of vital adaptive equipment are common. Compounding these issues is the lack of public awareness of the needs of people with disabilities, resulting in less than adequate provision of essential services and meet their basic human rights.

Despite these challenges, there are several government and non-government disability support services operating in the Solomon Islands. These services include the national disability advocacy group, People with Disabilities Solomon Islands (PWDSI), which is based in Honiara and works closely with the government, international donors and other relevant stakeholders to promote the rights of Solomon Islanders with disabilities. PWDSI is a member of the Pacific Disability Forum and has members from the nine provinces. PWDSI is involved in community events and dialogue that is aimed at raising community awareness of the issues faced by people with disabilities. International events such as World Sight Day and Hearing Awareness Week are observed and PWDSI members use such occasions to lobby for improvements to access to basic services such as education and to change public perceptions of people with disabilities and their rights. Current PWDSI activities include input into the drafting of national legislation aimed at recognising the issues and needs of Solomon Islanders with disabilities, and extensive liaison with members from the provinces to further enhance the reach of the organisation. PWDSI is largely funded by periodic donations from major international human rights organisations with some support from the Solomon Islands government.

For the past ten years, the government’s education and rehabilitation services for people with vision impairment are administered by the Ministry of Health and Medical Services which has offered rehab and educational programs for more than ten years. The Community Based Rehabilitation (CBR) programs focus on enabling participants to lead normal lives as much as possible through training, family liaison and ongoing support from personnel who are deployed in the provinces. Within the CBR program there is a small division, known as Services for Visually Impaired and Blind (SVIB) which was established to meet the specific needs of blind and vision impaired children and adults. SVIB consists of two staff and a Coordinator, all of whom are extensively trained in the area of vision impairment and special education. SVIB's activities are free of charge and focus on Braille and computer literacy, orientation and mobility, independent living training and basic counselling.

The SVIB works closely with the Red Cross Special Development Centre, a facility which caters for children with various disabilities including vision impairment. SVIB staff conduct Braille and computer literacy classes at the Red Cross Centre several times a week, and SVIB volunteers assist with the delivery of the Red Cross Centre’s education programs. Word of mouth is usually the client's introduction to the SVIB program.

Sometimes referrals by eye doctors and visiting specialists are made if vision impairment is detected during routine examinations. All SVIB's activities take place in Honiara, the capital of Solomon Islands and occasional home visits are made to villages close by or in other provinces as funding allows. While educational service provision forms an integral part of the SVIB program, there are no existing links between SVIB and regular schools, and the enrolment of blind children in school is close to non-existent. In some instances, children are sponsored by the Solomon Islands government to attend the Fiji School for the Blind in Suva.

As clients are enrolled into the SVIB program, an initial assessment takes place which assists staff in tailoring activities to meet the needs of the client and in some cases, the family. The client is interviewed at length where he/she is asked to identify an activity they would like to master or goal to be achieved. In most instances, Braille literacy is chosen, backed up with orientation and mobility, independent living and socialising with fellow clients and staff. At the time of writing, the SVIB program had access to approximately ten Perkins Braille machines, one Mountbatten Braillewriter, two computers with voice and enlarged screen output, a small library of Braille texts, audio books and bibles, mobility canes and tactile games. Equipment has been donated from various organisations overseas and the Solomon Islands government is responsible for ongoing costs associated with running the programs.

While the SVIB programs are successfully operated and clients gain useful skills, many challenges currently prevent expansion of services and client opportunities. These include unaffordable transport to the CBR premises in Honiara each week; limited opportunities for ongoing learning once the client has completed SVIB activities; the prohibitive cost of adaptive and assistive equipment such as Braille machines, computers and mobility canes; the need for educational, early intervention and school support services to be expanded and run in remote areas of the country where the majority of blind people reside; and the lack of SVIB funding to increase staffing and services to meet demand. There are plans to establish linkages with schools in the Honiara region where the enrolment of blind students will be attempted. It is unclear however, whether the SVIB program will be in a position to offer in-class support or provide the required textbooks in alternative formats.

Case Study 1: Eddie Babanisi

Mr Eddie Babanisi is in his early 40s and is currently employed as a Braille teacher at the Services for Visually Impaired and Blind (SVIB). Born in the remote Western Province, a region bordering the autonomous region of Bougainville in Papua New Guinea, Eddie was diagnosed with total blindness shortly after his birth. His family were closely associated with the local church that assisted with caring for Eddie and

supporting his family. The nuns who lived in a nearby village were affiliated with the Dominican Sisters of Eastern Australia. The Order operated a school for blind and vision impaired children in Sydney, known as St Lucy's School.

In 1983, Eddie and his father travelled to Australia where he was enrolled as a kindergarten student at St Lucy's School. He studied at the school for little over a year where he developed advanced Braille writing skills for his age and intermediate reading capability. On his return to Solomon Islands, Eddie was awarded a government scholarship to attend the Fiji School for the Blind in Suva where he completed his formal schooling. On reaching year 10, Eddie was successfully integrated into the local Marist Brothers secondary college in Suva where he graduated with his Leaving Certificate, the highest level of schooling in Fiji. After his graduation, Eddie returned to the Solomon Islands and although he was successful in gaining entry to several universities in Australia and New Zealand, scholarships were unavailable the Solomon Islands so he was forced to defer.

With the establishment of the Services for Vision impaired and Blind (SVIB) in 2001, Eddie was employed to provide Braille training programs and as an ambassador for people with disabilities. Eddie is the first person with a recognised disability to be employed in the Solomon Islands and continues to serve as an ambassador and teacher within the government. At the time of writing, Mr Babanisi was on scholarship at the University of the South Pacific in Fiji, studying for a Bacheler of Arts/Law.

Case Study 2: Jabis Ngibutai

Mr Jabis Ngibutai is a young adult who was a client of the Services for Visually Impaired and Blind (SVIB) program until 2015. He was born in the Rennell and Bellona Province, which is perhaps the remotest region of the Solomon Islands. Diagnosed with total blindness at an early age, his family enrolled Jabis at the local school where he attended class for approximately one year before his enrolment was cancelled due to a lack of resources to support him. During his time at school, Jabis did not learn Braille and was unable to take part in the majority of school activities. He attended classes daily and was able to acquire an extensive knowledge of many topics, demonstrating that his school attendance was fruitful despite the many obstacles facing him.

During a family visit to Honiara in 2011, Jabis learnt of the SVIB program and was immediately interested in learning how to read and write Braille. He enrolled in July and quickly became fully literate, being able to produce Braille quickly and efficiently and read at a reasonable pace. Jabis is currently receiving financial assistance from an international organisation to pursue further studies as a gateway to fulltime employment. He has recently returned from Japan where he spent time learning Japanese and attending school at a centre for the blind. Jabis is currently employed at the Solomon

Islands Broadcasting Corporation as an announcer.

Samoa

Samoa is one of the smaller countries in the Pacific islands, located about halfway between New Zealand and Hawaii. It contains four inhabited islands with Savai'i being the largest in the Polynesian region of the Pacific Ocean. The capital city of Apia is located on the island of Upolu and has a population of approximately 30000. Being a relatively small country and with regular exposure to the outside world, Samoa is more developed than neighbouring countries with a good road network and educational facilities, and an improving standard of living. Samoans with disabilities have access to several non-governmental organisations that work in the areas of service provision and advocacy. The national advocacy group, known as Nuanua O Le Alofa has a relatively high number of members and is working on several projects aimed at improving the lives of Samoans with a disability. The advocacy group has representative status in several International organisations, including the Pacific Disability Forum.

Samoa has extensive links with New Zealand and it is common for blind children to be sent to live with their extended family to attend schools in Auckland and other major centres throughout New Zealand. There are several service providers which support with people with disabilities, including two who service blind and vision impaired people. For many years, blind and vision impaired children have attended school in Samoa, owing to the importance Samoan families place on education. The organisation, Prevention, Rehabilitation and Education for the Blind (PREB), was formally established in the 1970s and provides school support services for children as well as independent living and social support. While the organisation has and continues to face substantial funding challenges, PREB has enabled many blind children to attend school in their local region and in many instances, their home villages. For this reason, Braille literacy is widespread with many blind children and adults possessing intermediate and advanced Braille reading and writing skills. As PREBs resources are limited and access to Perkins Braille machines was unachievable, many Samoan have learnt to use a slate and stylus for Braille production on a daily basis. PREB was relaunched in 2016 and is now known as the Samoa Blind Association. It has formed strategic partnerships with the Ministry of Education, Sports and Culture and is responsible for the transcription and production of national exams in alternative formats.

In 1993, a second organisation, Special Needs Education Service (SENESE in Samoan) was established to support children with hearing impairment. In recent years, SENESE expanded its services to include children with vision impairment and children with autism and vision impairment, complementing the work the Samoa Blind Association. In 2010, SENESE partnered with Australian Aid to commence the Inclusive

Education Experiment, a 5-year strategy which was aimed at enrolling children with disabilities into regular schools across Samoa with student support provided by SENESE and other disability organisations. On completion in 2015, the program has significantly contributed to the marked increase in the numbers of children with disabilities attending school in Samoa, many with successful outcomes. Each child is assigned a teacher aide whose salary is funded by Australian Aid in partnership with the Ministry of Education. The teacher aides are trained by SENESE or the Samoa Blind Association (SBA) in Braille production and special needs support. Blind students are fully integrated into the mainstream school environment, and equipped with a Perkins Brailler. The teacher aids transcribe student work into print for correction by classroom teachers. The use of adaptive technology such as computers with voice output is yet to be fully implemented, however computer classes have commenced with some students becoming familiar with Microsoft Word and the Internet. Braille instruction takes place during the child's time at school with additional opportunities offered at the SENESE premises. For the most part, school integration has been successful in Samoa, with blind students excelling in subjects at the same pace as their sighted peers. Family support is integral and is encouraged by SENESE and the Samoa Blind Association. Several blind adults who are proficient in Braille and familiar with inclusive education work for both blindness organisations and provide valuable input into the training of staff and enrolled students.

Case Study 3: Tuli Fotulupe

Tuli is a bright, playful and energetic adolescent who was born in the village of Sa'anapu, located on the south coast of Upolu Island. Tuli belongs to a large and loving family who are always striving to give him the best possible opportunities to excel and fulfil his dreams. Born totally blind, the family were unsure as to whether Tuli would ever be able to attend school as they feared there would be no support service available in Samoa to assist him. Furthermore, moving to New Zealand so that Tuli could attend school was not an option for the Fotulupes.

In 2009, Tuli was enrolled at the Robert Louis Stephenson School in Apia and began attending class with the support of SENESE. SENESE staff received ongoing support from the RIDBC Teleschool in Sydney. Immediate success was achieved as Tuli embraced his new school environment, made many friends and was able to learn alongside his sighted classmates. The only issue for his family was the lengthy daily travel period as Tuli and his family live on the opposite side of the island, an hour's drive away. As the SENESE services expanded, it became possible for Tuli to transfer to his own village primary school where SENESE was able to train and employ a teacher aid from the same region who could continue Tuli's support without the need for him to travel to Apia each day. Tuli continues to excel at school and no one could be happier

for him than his loving family who are very excited at the prospect of him reaching his goals.

Case Study 4: Faaolo Utumapu

Faaolo is totally blind, is in her early 30's and is living life exactly the way she wants. Born in rural Samoa and with an older sister who is also vision impaired, Faaolo was ambitious from the start, not letting anything get the better of her. The family and extended family were always keen for Faaolo and her sister to receive an education and they did not consider the girls' vision impairment as a barrier. At an early age, Faaolo and her sister journeyed to New Zealand to live with relatives and attend school in Auckland, with support provided by the Royal New Zealand Foundation of the Blind (now called Blind Foundation).

After obtaining her leaving certificate in Auckland, Faaolo commenced studying at Monash University in Melbourne, and qualified with a Master's degree in Communications. On her return to Samoa, Faaolo says she initially encountered extreme difficulty obtaining employment in her chosen field. However, her persistence payed off when she secured employment as a news reporter at Radio Polynesia, Samoa's national network. This work led her into working directly for the Samoan government as a transcriber in the national parliament. Her responsibilities include real-time recording of parliamentary proceedings in Hansard. At the time of writing, Faaolo was the Media Relations Manager at SENESE and along with her sister, plays a vital role in the operation of the national disability advocacy group.

Ben Clare
Chairperson, ICEVI Pacific; and ICEVI Representative for SPEVI
Sydney Australia, Email: bwclare@gmail.com

The Right to Literacy: Braille literacy for learners with cognitive impairments and additional disabilities - Diane P. Wormsley

While it can be said that children who are blind or visually impaired with additional or multiple disabilities are frequently overlooked when it comes to literacy instruction, this situation has been changing for the better with the emergence of some new approaches to teach reading. What it takes is belief that a student can become literate, no matter how severe the disability. In his book, Seeing All Kids as Readers, Christopher Kliewer (2008) exemplifies the importance of believing in the capabilities of learners with disabilities to become literate, and then developing ways to teach them to fit their own learning style.

Providing students with what they need to become literate means that teachers need to think about non-traditional ways to teach reading and writing. I've spent much of my career working with older children who hadn't been successful learning to read, trying to figure out what might work with them. Back in the late 90's I was asked to help a teacher with three girls who were between the ages of 16 and 18 who were moderately cognitively impaired in addition to being totally blind, and who had not yet been successful in learning to read braille. They had each learned most of the letters of the alphabet but were unable to read words or connected text. Their teacher and I decided to try to use a more meaningful approach with them, similar to the one used by Silvia Ashton Warner with her Maori students in New Zealand which she wrote about in her book **Teacher** (Ashton-Warner, 1963). Rather than starting with letter recognition, or phonics, we started with whole words in braille that the girls wanted to learn to read. We used a language experience approach to help them write stories with each other, and watched as their excitement and enthusiasm for reading and writing developed. Work in phonics and letter and contraction recognition followed their initial success in reading and they improved their reading gradually, working in fully contracted braille. By the time each of these girls aged out of school they were reading at around a second grade level and were able to use braille as a literacy tool for writing grocery lists, reading recipes, and writing notes to other braille readers.

The approach that we began using with these three girls has evolved over the years. In 2004 AFB Press published **Braille Literacy: A Functional Approach** which outlined the basic approach that we used and made suggestions for using a similar approach with a range of individuals. And just this year AFB published the most recent version of the approach, entitled the I-M-ABLE (Individualized Meaning-Centered Approach to Braille Literacy Education). In addition I'm pleased to say that the American Printing House for the Blind will be making available a kit of materials including the I-M-ABLE

publication for purchase. Teachers in the US will be able to order it under our Quota System.

I've been lucky enough to witness some of the success stories of students whose teachers used I-M-ABLE and whose students emerged into literacy after being non- or pre-readers for much of their life up until they were anywhere between 10 and 18. I love to talk about Roger, a student who was 14 when we began working with him using I-M-ABLE. He was in a resource room for students with developmental disabilities, and could not read or write. Roger's face and body were bulging with numerous tumours which would grow, be removed and then regrow. These tumours had affected his vision and also his health. When he was in kindergarten and first grade, braille literacy instruction was begun with him, but somewhere during his early years in school the instruction stopped for reasons we weren't able to reconstruct, except that it was noted that he wasn't making progress, perhaps because of numerous absences from school. I remember watching Roger's teacher one day after she had been working with him for about three months. Roger had learned 80 words in that time, and his teacher had the 80 words on cards in a stack and was searching for a word which she wanted to use with him in a lesson, but simply wasn't able to find. Roger got impatient and said, "Let me look for it" and the teacher handed him the stack of word cards. As he flipped through the cards, he would take one, read it and then place it aside. He went methodically through the entire stack of 80 cards, reading each one, placing it aside and moving to the next. I watched as he read every card quickly and correctly, and at the end, he said, "Well, it isn't there is it?" Sitting next to me was a consultant from the Department of Public Instruction which had provided the funding for our research. I was chuckling to myself as I watched her face during this lesson. As she watched Roger flip quickly through the stack of cards, her eyes got wider and wider, and her mouth began to open wide. The idea that he was able to go through the word cards as quickly and as accurately as he had after such a short period of instructional time simply amazed her. During the next few months he continued to make progress and created several stories to read about his favourite topics. One of them was a story about motorcycles which he particularly liked, and he asked his teacher if she thought he could read it to his buddies in his class. They practiced reading the story together until he felt confident he could read it fluently, and then he asked his classroom teacher if he could have some time to read the story to his friends. She agreed and they arranged for him to read the story that day after lunch. He gathered his buddies around him in a circle and proceeded to read the story to them. The motorcycle story was definitely a hit. He finished the story to accolades of "Awesome, Roger!" "Way to go, dude!" and his teacher reported to us that the ear-to-ear smile that he had on his face for the entire afternoon afterwards had her almost in tears.

For some students the progress wasn't as great as Roger's, but it was still exciting. Jennifer, who was in a class with students who had severe developmental disabilities and behaviour issues, had learned the word purse. Her mother had a purse, and Jennifer wanted to learn the word and also wanted a purse for herself. Her teacher found a purse that she brought for Jennifer. And Jennifer learned three other words --- lotion, keys, cell phone. She carried her purse with her everywhere and had some lotion in it, an old set of car keys, and a non-working cell phone which her teacher used as props for their "purse" stories. One day when the TVI came to work with Jennifer, Jennifer told her that the school had been on lockdown the day before. Jennifer was extremely agitated by this according to her classroom teacher and the first thing Jennifer asked for that day when she saw her teacher was the word "lockdown." She insisted that they create and read that word immediately! And she wasn't content until her teacher had brailled the word cards and sat her down to look at them. As she and her teacher examined and talked about the word, her teacher exaggerated the "l" sound at the beginning of it. Jennifer immediately said "Oh, starts like lotion." While this might not be an earth-shattering statement for a typical reader, for Jennifer this analogy to another of her words was huge. Of course they not only had to read the word. They had to create a lockdown story which soon was equal to the purse story in prominence in her lessons.

Just recently in a workshop I was giving on I-M-ABLE one of the participants shared a story about a student she had taught to read braille. The student didn't have any sensitivity in most of her body including her fingers. However, the teacher had discovered that the student did have sensitivity in one part of her body, and she told about how she had taught the student to read braille by using that part of her body – her lower lip. The student was reading successfully at grade level and also doing her math problems -- using her bottom lip. I had seen a little boy years ago who read braille with his thumb, and had also heard about a girl in China teaching herself to read braille with her tongue, but I had never met someone who had actually taught someone to read braille using any body part other than their fingers. What this said to all of us in the workshop was that this teacher was someone who truly believed in the importance of literacy and the capabilities of her student! It also demonstrated for us the need for high teacher expectations and the ability to think outside the box where braille literacy is concerned.

Many more of these stories exist, but no matter how pleased I am that we have been able to teach reading to these older students who have previously not been successful, it bothers me that these stories have to begin with statements like "this student was 12 years old and hadn't learned more than 15 letters and knew no words." Some people might argue that we had just reached these students at the right time – that it wasn't the

I-M-ABLE approach we used that created the success– we just hit the students when they were finally ready to learn to read. Obviously we don't have real evidence that this isn't the case. But the dramatic turnarounds that we see in the children make me think that we just hadn't found the right way to work with them earlier on. This is why it is so important that teachers record their work carefully and that we conduct more research in this area. If we could get to these students earlier and find what works with them, we might be able to move them into reading earlier and their progress might be more typical. They might achieve more in the long run than our waiting until 12 years old to teach them to read.

So I want to try to get us to re-examine how we think about literacy with respect to all of our students who are visually impaired or blind and make sure that we are thinking of them as potentially capable of developing literacy skills as early as possible. I know that it is hard to think of literacy when we see a child who has severe disabilities in addition to blindness. We think about motor skills, speaking skills, skills of daily living, but we don't think of literacy for these children. So how do we make sure that literacy is at the front of our thinking when we work with these children in early intervention?

Just recently I read an article Cervetti and Heibert (2015) who acknowledge in their article that the common core state standards have changed how we think about literacy in relation to the content areas of education. They say, "Among the significant changes brought by the CCSS/ELA is a focus on **knowledge development** as part of literacy development and a focus on the acquisition of literacy skills specific to learning in different disciplines." As they said in their article, "Linking literacy instruction and content area learning is beneficial for students' literacy development." Although the article dealt with the Common Core State Standards and making sure that literacy materials for content instruction were developed, when I read this I immediately began to take this down several levels to those infant and preschool students. Just how are we developing their knowledge of the world around them and relating that to literacy? **Are** we developing their knowledge of the world around them and if so **are** we relating it to literacy? We know that children who are visually impaired or blind have a harder time with conceptual understanding of their world. Those children who have additional disabilities have additional difficulties with this.

So the first place to start with helping our students develop literacy in early intervention is to examine how we develop programs for children and how we help their parents help their children learn about their world, and develop a realistic understanding of that world which they can use to interpret their experiences. We know how important concept development is for children who are visually impaired or blind, but we also need to pair that concept development with literacy to assure that we take that additional step. Neuman, et al. (2007) stated that the five essential activities that families can do with

their children to help them develop literacy are talking, singing, playing, reading and writing. Talking plays a critical role in language development and the more words a child knows before entering kindergarten; the more likely he or she will be a capable reader. Teachers can help parents engage children in conversations, and encourage them to give children language for their experiences and develop meaningful concepts. Singing to children strengthens their ability to hear and pay attention to sounds and rhythms of speech. Nursery rhymes, silly songs and chants reinforce concepts of words and help children hear the differences and similarities in how words sound. Playing allows children to expand and refine their ability to use objects to represent experiences in their world and helps them develop a sense of narrative as they recreate in play what they have experienced in reality. Parents playing with their children can help them understand concepts, and expand a child's vocabulary by introducing new words at appropriate times.

Reading and telling stories are considered critical to developing knowledge about the written word. Parents can create experience stories which help students understand that reading has meaning and has something to do with themselves. Stories can provide opportunities for exploration, also, in order to make the concepts in the stories more meaningful to the students if they haven't already experienced what the story is about.

The first phase of literacy development involves awareness and exploration. While we help young students develop the ability to explore and be aware of their environment, we need to remind ourselves how this awareness and exploration relates to literacy. When I think about working with students to help them become literate, I think about what we do with our children who develop normally and who have sight. Then I try to determine how we can adapt those activities to make certain that children with disabilities have access to the same types of activities. I think of this as teaching with an eye to literacy. Many good resources for these types of activities already exist. We have researchers who have spent considerable time in assisting with these early intervention activities, Deborah Hatton, Kay Ferrell, and others. We have AFB Press Publications on Early Intervention, and APH products that help parents learn about providing the kind of awareness and exploration that are part of the early phases of literacy development. We need to make sure that those who work in early intervention have access to all of these resources.

I mentioned earlier that we need to be sure we are providing children with what they need in order to become literate. Knowledge of their world and a body of experiences to bring to reading are important. But we also need to be sure we figure out as soon as possible what literacy medium the students will be using when they eventually begin to learn to read. This is especially important if the student is to be a braille reader.

Without making a decision that braille might be a literacy medium for a child, we won't bring it into the environment. And without its being in the environment, the child won't have any experience (meaning no fingers on braille) with the very medium that is going to help him or her become literate. Even if braille is the only obvious choice, because of the child's eye condition or quickly deteriorating vision, if we don't believe that the child can become literate, if we don't provide him with experiences and teach him with an eye towards literacy, we will not be providing him with what he needs to grow into literacy. We need to believe that each of the students we teach has stories to tell. Our job is to help them develop the capacity to tell the stories and to read them to others. We have to believe that they, just like anyone else, have a right to literacy!

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Diane P. Wormsley, Ph. D.
Education Consultant, American Printing House for the Blind
Paper presented at the WBU-ICEVI
General Assembly, Orlando USA, August 2016

It’s a Small Information World: Connecting customers, content and channels for equality in information access - Karl Hughes and Anthea Taylor

Abstract

We live in a world that is getting smaller and smaller when it comes to accessing information. From recreational to educational information, people have increasing choice and control over the ways in which content can be accessed. Consideration needs to be given to what Vision Australia has coined ‘the Technology Trinity’ – Customers, Content and Channels – so that people who have a print disability are empowered when accessing information. Educators and learners need to consider each of these components when designing, or participating in, an accessible online information service. Applying the components of the Technology Trinity, along with a Customer Cohort Continuum, Vision Australia recognises the characteristics and needs of different customer segments and is creating new opportunities for online information service delivery.

Walt Disney Got It Right

In the mid 1960’s Walt Disney created a ride at Disneyland called “It’s a Small World”. The ride is still at Disneyland today, standing the test of time for all the millions of visitors that have walked through the theme park’s gates. Walt Disney has always been seen as a visionary, but little did he know how accurate he was when he created the ride. Today, in the 21st Century, it certainly is a small world - a ‘Small Information World’.

The developed world has evolved to such an extent that unprecedented choice and control in accessing information, from recreational to educational, is available. The ubiquitous influence and unifying force behind this is technology. While much of this brave new world is directed at enhancing recreational pursuits, education is a prime example that can also benefit from the shifts in technology.

Technology is Reshaping the World

Commercialisation of the internet has developed over the last 30 years and today the Web is a part of our daily lives. The developed world has never seen such a predominance of technology in the hands of the average person. The interaction with technology is becoming an irreplaceable part of our daily lives through the use of mobile devices and the ever- increasing availability of apps. But how does the growth in use of the web and mobile technology compare with the take-up of the internet among people who experience blindness or low vision?

During the financial years of 2012 - 2014 Vision Australia tracked the internet useage of more than 2,500 customers (Vision Australia, 2015). The sample used in this tracking was predominately older people, as the Vision Australia Information Service has 70.5% of its customer base over 65 years of age.

It was found that:

- 65% of the 2,500 service users tracked indicated that they did not use the internet (39% said that their vision hinders them from accessing the internet).
- 35% of the 2,500 service users tracked indicated that they used the internet (46% said the main reason they use it is for searching online; and 44% said the main reason was for emailing).
- 93% of those aged 19-34 used the internet.
- 18% of those aged 65+ used the internet.

As part of this research, Vision Australia also asked approximately 500 customers about their experience with smartphones. It was found:

- 17% use a smartphone.
- 86% of those aged 19-34 used a smartphone; this dropped to 2.8% for those aged 75+.

The Technology Trinity

The World Wide Web has created possibilities never previously imagined. It taps into a seemly endless universe of information, allows virtually instantaneous access at any time, from anywhere with connectivity, and this can be done in a vastly more sustainable way compared to the information acquisition models of a few decades ago.

When it comes to information access, as can be seen by Vision Australia's research alone, not everyone is engaged with technology. There is also the issue of accessibility. Not all information is structured for easy access and many devices are not user friendly for someone who experiences vision loss. Then there are other such barriers as connectivity affordability or geographic isolation to further impede access.

With this in mind, Vision Australia, through the organisation's experience in building a digital information delivery system, has identified three main components that grouped together have been given the term the Technology Trinity. The Technology Trinity consists of three components – Customers, Content and Channels. Each component is a critical part of a system that creates an online information service delivery solution.

Component 1: Customers

The first component of the Technology Trinity is Customers. It should be noted that the term ‘customer’ is used in the Technology Trinity to encompass anyone who seeks an information service to gain knowledge or participation. The term is also used to create a sense of choice and control for the individual in the access of information. A customer could have a variety of needs – different uses for the information and requirements for how the information will be consumed. Information could be recreational, informational or educational in nature.

When it comes to educational information there is a variety of ages and needs. Learners may be young, building their capabilities and skills for life. Or they may be older, wishing to enhance their current capabilities or to challenge themselves with new knowledge and endeavours. A learner for life means that people can be studying for work advancement or learning as a mature age student, both formally through the education system or informally at home.

Regardless of need or age, Vision Australia considers the starting point of the Technology Trinity to be the person, the individual who needs to access information for some purpose. When delivering a digital information service, or undertaking a transformative initiative to transition people to such a service, it is critical to better understand customers in regard to their technology proficiency and adaptability to technological change.

To help with this understanding, Vision Australia has created a Customer Cohort Continuum. The creation of the Customer Cohort Continuum is based on Vision Australia’s:

- experience in implementing a digital information delivery system
- results from organisational surveys, and
- the rollout of the National Disability Insurance Scheme and the positioning of service users to become true customers.

This continuum separates people into segments or cohorts to better understand their proficiency and adaptability when it comes to technology. This in turn provides a way to design products and services to match the needs and attributes of a particular cohort.

While the continuum aggregates people into cohorts with common traits in regard to technology proficiency and adaptability, a person-centred approach needs to be applied to each person as an individual as well. The continuum guides service and product design to help meet the individual outcomes desired by the person.

The Customer Cohort Continuum consists of five cohorts as follows.

1. **Web Citizens**

Web Citizens lie at the far left of the continuum and are very comfortable engaging with online channels and devices that are connected to the internet. They live in this web world and use the internet for informational, educational and recreational purposes. They are highly proficient in the use of technology to access the web and are using a variety of devices to do so, including smartphones and tablets. Their adaptability to emerging technology tends to be high.

2. **Web Tourists**

The second cohort in the continuum is Web Tourists who visit the world of the web from time-to-time. They are happy to try limited online channels. They are not afraid to experiment but tend to be more traditional using a computer desktop. They use the internet for communication through email and general internet surfing for information. Their technology proficiency is medium as is their adaptability to technological developments.

3. **Web Immigrants**

The third cohort along the continuum is Web Immigrants who are forced to move into the online world and engage with online channels and devices. This may be because more traditional ways, such as compact disc, are becoming no longer available. Their technology proficiency tends to be low-medium and their adaptability to changes in the way they access information is low. This is because they are not making the choice to move to the web themselves, but through the influence of other drivers such as the reduction in other options.

4. **Web Villagers**

The fourth cohort along the continuum is Web Villagers who are isolated from the web world because there are barriers that are preventing them from entering. These barriers can include internet affordability or remote geographic locations which have poor internet coverage. Technology proficiency tends to be low as does adaptability as this ‘village’ state of isolation creates a gap in knowledge and confidence.

5. **Web Resistors**

Web Resistors lie at the far right of the continuum. They are just not comfortable or interested with online channels or devices and avoid any kind of engagement. They are very traditional in their approach to information access and are not interested in learning new methods of access through the web. Their technology proficiency is very low as they are just not interested in what it offers or how it works. Adaptability is also very low and they will strongly resist any changes to their set patterns.

The Customer Cohort Continuum, consisting of the five cohorts mentioned above, helps Vision Australia understand customers' abilities in relation to technology. This aids Vision Australia in matching the right products and systems to the abilities of a particular cohort

The next component in the Technology Trinity is Content.

Component 2: Content

Having consulted with our customers and identified which technology cohort they most align with, Vision Australia's challenge is to ensure we continue to provide content that suits their needs and wants whilst adapting our delivery channels to match their connectivity preferences.

Like many public libraries, the Vision Australia Library moved away from titles being solely selected by "all knowing librarians" to a customer driven collection model. Where possible, either through purchase or the print disability provisions of the Copyright Act, emphasis and preference are given to adding titles suggested by customers.

Content is given such importance that in-house production capabilities at Vision Australia transform standard print into accessible content. This content includes books, magazines, newspapers, corporate documents and educational information, such as textbooks and recommended reading.

Personal Support, which is a user-directed service offered by the Vision Australia Library, allows customers to submit information for conversion to a preferred format of choice should it not be available commercially. This creates the opportunity for customers to obtain information in a form that they can use that otherwise may not be available to them.

The good relationships we have with publishers are vital to ensuring we are able to meet the expectations of our customers and add to the richness of the collection. Our joining the World Intellectual Property Organisation's Accessible Book Consortia TIGAR (Trusted Intermediary Global Accessible Resources) Service enables us to add to our collection.

There are two significant positive legal changes which when operative will allow us to further add to and enhance the collection. The first being the proposed changes to the Copyright Act through the Copyright Amendment (Disability Access and Other Measures) Bill 2016 (The Parliament of the Commonwealth of Australia, 2016) and the second being the Marrakesh Treaty (WIPO, 2013).

With Australia being one of the first 20 countries to ratify the Treaty, and proactive in amending our copyright laws to comply, we are poised and ready to take advantage of

the changes. We currently hold in excess of 48,700 items with new titles added each month. This has the potential to increase considerably.

With a focus on understanding customers and increasing quantity and variety of content, people need to be able to access the content they want through a channel that is suitable for them.

With this in mind, the third component of the Technology Trinity is Channels.

Component 3: Channels

As technology changes, the Vision Australia Library has been moving towards a predominantly online collection to enable customers to access and read their library materials anywhere, anytime. In line with the global trend, Vision Australia needs to ensure that choice in channels and devices is offered to customers. We need to make sure that cohorts such as Web Citizens and Web Tourists have a relevant service offering, while bringing along the other cohorts in the digital revolution.

The quantity of items we have available to loan via online is rapidly increasing. We now have 95% of DAISY (Digital Accessible Information System) and 63% of Braille with a downloading or streaming option. Whilst we still offer hardcopy Braille and DAISY on CDs, the online option, along with the increase in the uptake of household internet connectivity and burgeoning use of mobile and handheld devices, has contributed to the shift of delivery preferences. Whereas in 2014 only 20% of loans were via online, in March 2016 it was 61%.

3G Player

Although connectivity has increased on a national level, Vision Australia recognises that not all clients have access or the means to connect to our online content, such as the Web Immigrants cohort on the Customer Cohort Continuum. To reduce the gap, in 2014 Vision Australia introduced the 3G Online DAISY player. Working in partnership with Optus in Australia and Plextalk in Japan, 3,000 existing PTX DAISY players were converted to online streaming players using an internal SIM card configured to an individual's Vision Australia library membership. This connects directly to their i-access® online catalogue account, the books they have on loan and the newspapers or magazines to which they subscribe.

The advantage to the member is that they do not need to have any internet or telecommunications connection. The internal SIM provides immediate access to their loans and subscriptions and they do not have to wait for the arrival of CDs through the post, which with the recent changes to the Australia Post delivery times has increased.

A Wi-Fi DAISY player version is also available and configured to connect to the individual's home Wi-Fi rather than have an internal SIM. Throughout the initial rollout we acknowledged that this type of player and access is not for everyone. Due to issues associated with geographic location or lack of comfort with the technology, the Web Villagers and Web Resistors cohorts became apparent. We are now charged with coming up with a solution that meets the needs of Web Villagers and entices Web Resistors.

Vision Australia Connect App

After 12 months collaboration with Dedicon, the Netherlands Accessible Information for People with a Print Impairment organisation, the Vision Australia Connect app was launched late October 2015.

In addition to providing customers with seamless access to their books on loan, the app provides:

- Reading of the 10 most popular daily newspapers;
- Ability to listen to podcasts and online radio such as Vision Australia Radio;
- Search and select titles from the i-access® online catalogue;
- Ability to give a like or dislike rating on books.

Access to the remaining newspapers and magazines, and messaging function to enable customers to provide direct feedback via the app are due for release in June 2016.

Refreshable Braille Display

Another exciting collaboration for Vision Australia is the development the Orbit 20 Reader, a battery powered portable low cost 20 cell refreshable braille display launched at the CSUN conference in March 2016. The cost of refreshable braille displays can range in the thousands of dollars making it prohibitive for many to move to as a device of choice.

Vision Australia is very proud to be associated with this ground breaking initiative to challenge the status quo and develop a refreshable braille display that re-invents the technology but more importantly brings it within reach of most people, including those in developing countries.

This has been a monumental international effort over three years and it is fair to acknowledge the other organisations involved: Association Valentin Hauy (France); American Printing House for the Blind; Blind Foundation (New Zealand); Canadian National Institute for the Blind; National Federation for the Blind (United States); Norwegian Association of the Blind and Partially Sighted; Perkins School for the Blind (United States); Royal National Institute for the Blind (United Kingdom), and Sight Savers (India).

It is one thing to develop a concept and solution, but it is another thing to progress to providing and making it available. The Orbit 20 Reader will enable uploading of a range of files to the device. To further enhance access for our customers, Vision Australia is working on developing an innovation that will allow us to deliver braille files directly to the device via i-access® online. This will empower more of our customers, from Web Citizens to even Web Resistors, to have the means and ability to access and read our braille titles. Another benefit is the speed with which titles can be provided as there will no longer be the need to wait for it to be embossed and posted.

Vision Australia will be the sole Australian distributor of the Orbit 20 Reader, with it being sold through Vision Australia Equipment Solutions. Low cost, ease of use and portability is a win-win for everyone.

Conclusion

We have outlined the Technology Trinity and some of the initiatives that Vision Australia is using to understand Customers, and develop Content and Channels. With such a wide range of customer segments on the Customer Cohort Continuum, there are certainly challenges ahead. But like that song from the ‘It’s a Small World” ride that just won’t go away once you have heard it, Vision Australia is humming along focused on making it an even smaller world. A smaller world in terms of connectivity, yet a bigger world in terms of creating more choice in accessible content, channel options and device diversity.

Whether a customer wants to access information for recreation, information or education, focusing on the Technology Trinity is helping Vision Australia and its customers to realise “It’s a Small Information World” after all.

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Karl Hughes
Production and Planning Manager,
Vision Australia
Email: karl.hughes@visionaustralia.org

Anthea Taylor
Manager, Accessible Information Library Services, Vision Australia

Paper presented at the Annual Conference of the Round Table on Information Access for People with Print Disabilities, Melbourne, May 2016

iLearn Share – a Peer training model for digital literacy developed by the deafblind community - Claire Tellefson

Abstract

Digital literacy for adults with combined vision and hearing loss is a necessary requirement for participation and engagement in citizenship. Peer mentoring is an effective tool in building digital literacy skills and Able Australia has developed a model called iLearn Share which is aimed at improving communication and access to information via mobile devices for people with combined vision and hearing loss.

The 10:20:70 Learning Framework recognises the importance of informal learning in gaining lifelong skills in digital literacy and Able Australia has identified important strategic goals for establishing a collaborative community that is aimed at building skills in literacy, digital literacy and financial digital literacy to ensure social and economic independence for adults with combined vision and hearing loss.

Working as a Digital Literacy Co-ordinator at Able Australia for nearly 20 years has provided me with invaluable insights into the deafblind community and how they are accessing information and engaging with technology and learning. Digital literacy for people with combined vision and hearing loss is a necessary requirement for participation and engagement in society, particularly when these individuals can no longer access such mainstream communication options as radio, television newspapers or the telephone. The loss of options can lead to profound isolation and loss of contact with their family members, peers and services.

Peer training has been a long time objective for the deafblind community. However, the challenges include the diverse range of accessibility requirements, complex communication needs, poor social skills and limited access to information. In my experience, individuals with combined vision and hearing loss are often private about the impact of their disability on their skills and are reluctant to join formal learning programs. Very few have the confidence to volunteer as a “trainer” and when they do, it is difficult to match people together, given this range of complexities. In response to these personal challenges, Able Australia has developed iLearn Share, a peer training model to improve access to information and digital participation via mobile devices. Mobile devices provide ease of access and participants can learn and practice “on their own device” (e.g. smart phone, tablet or netbook). Able Australia recognises the smart phone expertise of the wider community of carers, family and Communication Guides, and aims at establishing a collaborative community to share and build skills in digital literacy for adults with combined vision and hearing loss.

Digital inclusion fosters access and engagement with the marketplace of information, technologies and learning. However, it is estimated that 20% of Australians are not connected to the Internet and the percentage is much higher for people with a disability (Australian Bureau of Statistics, 2016). The deafblind community feel they are getting left behind as technology supposedly provides everyone greater access. Audio has provided greater access to information for the blind community; video has improved communication for the Deaf community; whereas the deafblind community has limited access to both of these mediums. Text is available on every topic but is often overwhelming and complex for people with combined vision and hearing loss. Access to formal training in digital technology is generally unavailable for the deafblind community due to their isolation, and as a result, it difficult for them to get started.

Able Australia offers an internet drop-in centre called Ablelink for Victorian adults with combined vision and hearing loss – see http://www.ableaustralia.org.au/what-we-do/digital-literacy-deafblind. The centre has accessible mobile devices and free Wifi and participants are encouraged to bring their own device (BYOD). For some adults with deafblindess, learning to read and write Braille is the first step to access a mobile phone. For others, improving English literacy skills might be the first hurdle. Digital literacy is introduced via communications Apps, SMS, email, Facebook, Facetime, twitter, blogs and vlogs, and involves “learning by doing”. For participants who are new to online social networks, skills are needed to manage their communication and to accept a range of diverse views and behaviours they may encounter for the first time.

Connectivity is the big barrier and support is provided Ablelink Drop-in Centre in understanding plans, data usage, security and privacy and dealing, and for dealing with “bill shock”. Financial Digital Literacy is the key to independence and includes shopping, banking, bill paying and managing a budget using apps on mobile devices. These services have a huge impact on independence and reduce reliance on supports for weekly shopping and bill paying. In the wider community people learn informally about their technology by asking neighbours, friends, families and staff at retail outlets. However, many people with deafblindness don’t have such informal supports. It is useful to look at the 70:20:10 Learning Framework (DeakinPrime, 2012) as a way of understanding the importance of Informal learning in digital literacy. This framework has identified that 70% of learning technology is through experience with day to day tasks and practice, 20% of mastering technology compromises learning through others, and 10% of learning is formal through structured courses and training.

The 10% formal training in accessing a mobile device is provided at Ablelink on a one-to-one basis, often via braille. Consolidation of learning happens when applying these skills to real situations. The 90% informal learning involves supporting participants to

use SMS, email or Facebook, or to practice such tasks as shopping, paying bills or using a wide range of apps to assist with independent living.

iLearn share encourages everyone to share what they are learning on mobile devices. We provide formal training in the accessibility features of mobile devices and the Communication Guides provide assistance with practicing tasks. We encourage the sharing of photos and conversations about what everyone is learning. We provide a helpdesk for support staff who can telephone or send questions via SMS text from out in the field. Through these strategies we have established a collaborative community built around the iLearn Share model.

To implement iLearn Share within the deafblind services team, Alble Australia has developed some strategic goals to align and integrate the model within service delivery. This included creating a collaborative learning culture with appropriate learning options to manage learning effectively, supporting the application of skills and finally, monitoring and evaluating participants' learning and development.

Able Australia's Deafblind services recognise the importance of eCommunication for effective service delivery. With the increasing expectation from the deafblind community for information via social networks, Able Australia recognised that all levels of service delivery needed to be involved in facilitating informal learning and the development of digital literacy skills. The role of Communication Guides was recognised as pivotal in providing support to practise and master everyday tasks through Apps on mobile devices. In learning to do tasks online, time if freed up for Communication Guides to assist participants to explore new activities. Experiential and social learning takes place during the time participants spend with their Communication Guides.

iLearn Share fosters a sustainable collaborative community that includes participants, communication guides, case managers, health professionals, family members, carers and friends. It promotes an informal learning culture using mobile devices and participants are encouraged to share information related to technology on Facebook and YouTube. Participants are also encouraged to learn Braille and Auslan to improve their digital literacy skills within the deafblind community.

The Ablelink Drop-in Centre in Victoria is pivotal in the success of providing appropriate learning options with supports. Participants are encouraged to visit Ablelink so they can work with other deafblind members or on their own projects. There are opportunities to practice their skills, reflect on their learning, carry out research or sound out ideas with others. Participants can arrange for supports to assist with their study, self-advocacy work or employment.

To manage learning effectively, individually customised training materials are developed in braille, text and video. The community share their learning and problem solving on

“TheLink Melbourne” Facebook page and Auslan video resources are uploaded to TheLink Melbourne YouTube Channel. Videos are a powerful communicator in changing culture and are used for training, sharing stories and real-time assistance. An equipment loan program has enabled deafblind participants to “try before they buy” (TBYB) and participants are encouraged to learn a range of devices and applications to build their capacity to make informed choices about suitable devices. It is recognised that mastering technology is a lifelong learning process and consolidation of learning occurs when there are opportunities to apply learning to real situations and to learn from each other.

To support the application of skills, regular workshops are provided for Communication Guides on accessibility solutions and workarounds. Workshops on financial digital literacy aim to break down barriers and fears by assisting participants to explore online banking and shopping. Communication guides assist participants to find information, explore Apps and discover new technology in shops.

Learning and development is evaluated through the uptake of devices, increased language and digital literacy with improved access to goods and services. We have seen an increase in eCommunication with improved connections and greater diversity of social interactions along with an increased civic voice. Participants are less reliant on care and services, there are reduced instances of crisis, and improved opportunities for employability, and mental and emotional well-being.

In summary, iDevices have changed the landscape and schemes to BYOD (Bring your own device) or TBYB (Try before you buy) are a great way for people with deafblindness to get started with technology. The collaborative iLearn Share peer training model recognises the importance of building capacity in the wider community to develop a culture of sharing information the is based around iDevices, breaking down accessibility barriers of and enabling greater social inclusion and participation for people with deafblindness.

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Claire Tellefson
Ablelink Digital Literacy Coordinator, Able Australia
Level 3, 247 Flinders Lane, Melbourne, 3000
Email: Claire.Tellefson@ableaustralia.org.au

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Reflections on developments in making touch screens and related technologies accessible for people with print disability - Bruce Maguire

I was home from school sick the day that Neil Armstrong walked on the moon in July 1969. It's no fun being sick, and of course it's beyond devastating to be home from school. But I managed as best I could, and it did mean that I was able to record the entire moon landing and moon-walk on my 7-inch reel-to-reel.

"Dad! What's a reel to reel?" "Be quiet son and let the man tell you – I think it's something you use when you go fishing."

Now I realise that if you're in Generation Y or later you may never have heard of a reel-to-reel tape recorder, but back in the late '60s it was a cool piece of technology to own because you could record in audio all the important moments in your life. Which is what I was doing while I was home sick from school on that July Monday almost 47 years ago. A much lesser-known event that occurred in 1969 was the release of a small book called "Prayer for the '70s", by Norman Corwin. Eddie Albert recorded it, and you could buy it on a 7-inch 45.

"Dad! What's a 45?" "Be Quiet son and see if the man tells us – I think it's a type of gun."

Of course, vinyl records were everywhere in the 1960s, and the 7-inch ones that spun at 45 revolutions per minute (rpm) were affectionately known as 45s, and because the record companies could record one song on each side, they were usually called "singles". So, on the 7-inch single of "Prayer for the '70s", Eddie Albert spoke of how ancient miracles had been "trumped by solemn science: Daily the Patent Office registers intenser magic than the burning bush; The serpent from the rod becomes a ruby laser; The leper is healed by mycins; The blind draws vision from an eye bank."

There was, back then, an abiding sense that if we couldn't all follow Neil Armstrong and walk on the moon, then we could all at least walk on the summit of the technological mountain – because we had reached the pinnacle of technological achievement, immersed in our tape recorders and our 45s.

It's rather awesome, in every sense of the word, to reflect that much of the technology that we thought of as cutting-edge and took for granted back in the '60s is now virtually unheard-of and unknown by anyone born after about 1985. And conversely, much of the technology that we now take for granted was not even imagined by most people 40 or so years ago. As a blind kid I certainly never imagined that technological developments would one day threaten to throttle my participation in the world. If someone had said,

“there are going to be these things called touchscreens, and they’ll be everywhere, and they’re going to replace buttons and knobs and dials”, I would probably have thought, “Wow, how groovy – I’ll be able to use them – touch is something I can do as a blind person”.

And someone might just have said that to me back in the ‘60s, because the touchscreen is actually a product of the '60s, and the accessibility issues associated with touchscreens may even have been foreseen back then by the visionaries in the blind community.

In October 1965, E.A. Johnson wrote a short article called “Touch Display – A novel input/output device for computers”. This article was published on pp.219-220 in a journal titled Electronic Letters. Johnson worked at the Royal Radar Establishment at Malvern, UK, and in the article he described a touchscreen that he had invented, based on a mechanism that is still used in many smartphones and other devices today.

Before we go any further, we need to be clear about what we mean by a touchscreen. It’s a word that we are hearing - and possibly fearing - increasingly, but what exactly is a touchscreen? Here is one definition: “{A touchscreen is a} type of electronic display that senses physical touch by a person’s hand or fingers, or by devices such as a stylus, and then performs actions based on the location of the touch as well as the number of touches.” (slightly adapted from http://lms.abuad.edu.ng/claroline/work/user_work.php?cmd=exDownload&authId=1193&assigId=&workId=32&cidReset=true&cidReq=EMS303MAN, Slide 2).

There are three basic types of touchscreen, known as Resistive, Capacitive, and Surface Acoustic Wave. The differences between them are in the mechanisms used for recognising where the screen has been touched, so that the device can respond appropriately, for example, by displaying a number, recognising text input, or whatever it has been programmed to do. The capacitive touchscreen is actually what Eric Johnson invented in 1965, and it is still used in many devices today, such as high-end smartphones. So the 1960s live on, even though we don’t buy singles anymore or record our lives on reel-to-reel tape.

You’ll be pleased to know that we’re going to talk about coffee in a minute, but before we do that I want to emphasise two things: firstly, touchscreen technology is no more inherently inaccessible to people who are blind or have low vision than other visual display technologies. What I mean by that is that unless audio or braille interfaces are added, touchscreens are not accessible, but neither are other types of visual displays such as computer monitors or LCD panels on appliances like microwave ovens. Once the computer has calculated the point where the screen was touched, it can equally provide audio feedback as visual feedback, and it can pre-assign a certain region of the

touchscreen to turn audio feedback on when it is touched. It's all in the programming, not the underlying technology.

The second thing I want to emphasise follows on from this: touchscreen technology is not new. It has been developing for fifty years. The accessibility implications of touchscreens have been there for all to see for all that time – they haven't just been sprung upon us – we didn't wake up one morning to find that the world has been taken over by touchscreens. Touchscreens are inaccessible to the extent - and only to the extent - that humans program them to be. What has happened recently, though, is that we have reached a "tipping point": touchscreens have begun to proliferate at an unprecedented rate, and that trend will only escalate. If we continue to banish touchscreen accessibility to the backwaters of our advocacy and policy-making, then increasingly those of us who are blind or have low vision will be locked out of participating in the mainstream.

I own 15 coffee machines, from a stainless steel plunger, to a 1950s Pyrex stovetop percolator, to an electric coffee siphon, to an Espresso machine with a double boiler and a ferocious steam wand, to a Mypressi Twist that is powered by small gas cartridges. Early last year I decided to replace my 2008 Nespresso machine with the latest model. In case you haven't come across it, Nespresso is the line of coffee machines and capsules from Nestle that George Clooney uses. The Nespresso capsules are very convenient, come in over 15 varieties, and produce consistently good coffee. So in January last year I paid a visit to one of the Nespresso shops in Sydney (they actually call them Boutiques). The Manager greeted me and offered to give me a tour of the various machines in the shop (I mean the Boutique). After showing me a couple of the basic models that had tactile buttons and were easy to use, she took me over to another part of the shop and said, "you'll love this one. You can choose from three different coffee strengths, or you can program your own, and you can program the amount of milk you want when making a cappuccino. It's got everything". I felt around the machine and said, "but where are the buttons to do all those things?". "Well, that's the great thing about this machine," she said proudly, "there are no buttons – you just use the touchscreen here and you just touch the option you want." "But how am I going to know where to touch the screen when I can't see it and there are no buttons?" I said.

There was a pause in the conversation at this point. The shop Manager was experiencing a moment of profound revelation about our society's reliance on vision, while I was experiencing a "yet-another-manmade-accessibility-barrier" moment. Eventually she said brightly, "well never mind, we still have machines with buttons".

That was almost 18 months ago. I know you can still get Nespresso machines with buttons, but there probably aren't as many as there were before, and this time next year

there probably won’t be as many as there are now. The trend in household appliances is to replace buttons, knobs and dials with touchscreens. There have actually been touchscreen-controlled coffee machines available since 2008, and now there are at least six well-known manufacturers that use touchscreens on their top models.

The amplifier that is part of my HiFi system has a touchscreen and I can only use it because it also has a remote control. The remote control doesn't provide access to certain functions though, so I can’t interact with the amp's settings at all. If I replaced my electric treadmill I’d have to look carefully to find a model that didn’t have a touchscreen. I recently bought a new mobile broadband modem. The top model, and the one with the most functions, had a touchscreen and there was no mention that it was accessible to me as a blind person.

During the presentation I gave at the 2013 Round Table conference, I mentioned that there is a small dry cleaning boutique in walking distance of where I live. They have a lockable box on the outside so that you can collect your clothes after the shop has closed. You unlock the box by entering a PIN, which is the last four digits of your mobile phone number. The keypad for entering the PIN is on a touchscreen, and is completely inaccessible if you can’t see it. So if I want to collect my dry cleaning the same day I drop it off, I have to stay home until it’s ready. I know it’s ready because they send me a text message. I read the text message on my iPhone, which also has a touchscreen. The difference between the dry cleaning collection box and the iPhone is that Apple has made the iPhone’s touchscreen substantially accessible, whereas the manufacturers of the box haven’t. Apple showed in 2009 that touchscreens can be made accessible “out of the box”; but I still can’t get my dry cleaning out of the box. That was true in 2013, and it’s just as true three years later. And I imagine that there are more of those touchscreen-controlled lockable boxes now than there were three years ago, just as there are more touchscreen-controlled information kiosks, coffee machines, treadmills, HiFi systems, printers, modems and other devices. And they are all of them still inaccessible because that's how they've been programmed.

I mentioned earlier that touchscreens are only as inaccessible as human programmers design them to be, and in 2009 Apple released the iPhone 3GS with the Voiceover screen-reader, which provided a way for people who are blind to access the phone’s touchscreen. Since then, Apple has continued to provide non-visual (synthetic speech and braille) access to its products, including the iPad, the Apple Watch, and the Apple TV. Google and other companies have also provided non-visual access to tablets and smartphones that run the Android operating system. And in March this year, two braille notetakers were released that use touchscreen-based Android tablets.

If you've been following developments in touchscreen accessibility here in Australia over the past year or so you might be thinking to yourself, "this talk of 45s and coffee machines and treadmills is all well and good, but he's ignoring the elephant in the room". In this case, the elephant's name is Albert. Albert is the mobile payment terminal released last year by the Commonwealth Bank. It is the first payment terminal in the world to be controlled entirely by a touchscreen – there is only one button, which activates the Merchant Menu that you interact with via the touchscreen. In particular, you enter your PIN using the touchscreen's virtual keypad that is displayed on the screen. There are over 35,000 Alberts in use across Australia now, and the number is growing by several thousand a month. You can find them in cafes, restaurants, shops and other places where you would expect to pay for goods and services. It's not just for paying for goods and services though: because it uses a touchscreen, the screen layouts and functions can be infinitely customised, so it can be used, for example, to pay bills, make donations to charities, maybe even book a ride on an elephant.

Albert is the quintessential example of a disruptive technology. Some of its disruptive elements affect the world of financial transactions generally, but Albert is proving to be particularly disruptive in the world of accessibility and in the blind and low vision community. You can start to feel the extent of this disruption as soon as you ask the question, "is Albert accessible to people who are blind or have low vision?". Depending on who you ask, you'll get answers like, "yes, definitely – I used it the other day to buy a coffee machine"; or, "no, it's totally inaccessible – I tried to use it the other day to pay for lunch at a café and eventually gave up in disgust"; or, "yes it is accessible, once you get used to it and have enough practice first", or, "whether it's accessible is beside the point – it's never going to be intuitive for blind people and we need to force them to bring back those traditional keypads that are so easy for us to use". So I doubt that there's much that I can say about Albert that won't be contested, or even considered heretical by some. But I think that in many ways the kind of future and the quality of participation in the world that we as people who are blind or vision-impaired will experience, depends on how we choose now to engage with Albert and the issues that it raises.

For quite some time before the release of the Albert terminal, the Commonwealth Bank was having discussions with an accessibility centre in Germany about how to make sure that Albert would be usable by people who are blind or have low vision. The decision to choose innovation over tradition by dispensing with the usual keypad with physical keys in favour of a touchscreen-only keypad, had obvious ramifications for accessibility which the Bank wanted to address in an innovative way. Since 2002 Australia has been fortunate to have had voluntary standards for the accessibility of electronic banking, and while these aren't perfect, they have resulted in greater levels of accessibility to banking products and services than would otherwise have been achieved, and they have also

meant that accessibility is less likely to be overlooked in the design of new products and services. It is worth noting that these standards need updating to take account of the new technologies that have been developed since 2002, and I strongly encourage the Round Table to join with other organisations in calling on the Australian Bankers' Association to begin the update process without delay.

The approach to accessibility that was devised for the Albert terminal involves using gestures supported by audio feedback to allow a person who is blind or has low vision to enter their PIN using the touchscreen. To enter each digit of the PIN, you start by imagining a pointer on the screen positioned on the number 5. You select the digits by using single-finger swipe gestures in the direction of the digit from 5 on a standard telephone-style keypad. For example, if you want to enter a 6, you swipe to the right, because 6 is to the right of the 5 on a keypad; if you want to enter 2, you swipe up once, because 2 is above the 5 on a standard keypad. By swiping up, down, left, right or diagonally you can select any of the 10 digits. To actually enter the digit once you've selected it with the swipes, you tap the screen once with two fingers. As you swipe, the terminal makes a swishing noise (which you can hear through the speaker or through headphones) so you know that the gesture is working, and once you enter a digit, it asks you in a synthetic voice to enter the next one. Once you've entered all the digits in your PIN in this way (there are generally 4 digits) you press on the screen for about one second with two fingers, and you receive spoken confirmation that the PIN has been submitted successfully. Albert is also able to announce the transaction amount, unlike other payment terminals, which have no spoken feedback at all.

At this point, you might ask, "is that all there is to it?" The answer is, "yes – and no". In a technical sense, yes, that's more-or-less all there is to it. But in the practical, messy and unpredictable world of daily life, there's much more to it than that. I'll mention just two factors that affect the way this approach translates from concept to practice.

The first factor is knowledge and familiarity. Using the Albert isn't intuitive for a person who is blind or has low vision. If you've never used one before and someone puts one in front of you, you won't know what to do with it. That's also true, though, of the iPhone and my Gryphon Diablo amplifier, which have a touchscreen; but it's also true of most of my coffee machines and my electric treadmill, which don't have a touchscreen. As people who are blind or have low vision, we have to learn how to use almost every household electrical appliance because we can't see the visual display or read the labels on the controls. We also had to learn the layout of a standard telephone keypad, and that the key with the dot on it (assuming it hasn't worn off with use) is the number 5. Many of us learnt that piece of information so long ago that we've forgotten there was ever a time when we didn't know it, and we think it's just intuitive. There is no question that using the Albert terminal as a blind or vision-impaired person requires knowledge of

the accessibility features and practice in using them. There's also no question that at present there are insufficient opportunities for people to become familiar with the features and practise using them to the point that the process becomes intuitive.

The second factor that is affecting the use of Albert in practice is that the accessibility features have to be turned on, and the way you turn them on is by selecting them from the Merchant menu, which isn't accessible to a person who is blind or has low vision. What some people are finding is that merchants often have little or no knowledge of the accessibility features and how to enable them. I know that the Bank is working with merchants to raise awareness of the accessibility features, but, both in principle and in practice, access to Albert should not be dependent on interaction with the assistant in a shop (even if it's a boutique), restaurant waiter, or service provider. Until there is a way for users to activate the accessibility features themselves (for example, by pressing a certain part of the touchscreen twice quickly, or pressing the Menu button three times quickly) then I think the acceptance of Albert's accessibility features by the blindness and low vision community will be significantly compromised.

Vision Australia has regular discussions with the Bank about how Albert’s accessibility can be promoted and developed, and last year we assisted the Bank to run some familiarisation sessions in Sydney, Melbourne and Brisbane. The world is becoming increasingly reliant on touchscreen technology, and we believe that achieving independent access to this technology is fundamental to the continuing participation by people who are blind or have low vision in all areas of life. We want to work with organisations and companies such as the Commonwealth Bank who are doing something rather than nothing about improving access to touchscreens, because as more products become accessible, the easier it will be to convince other manufacturers that they should make their touchscreen-based products accessible as well.

The argument about whether the benefits of touchscreens outweigh the disadvantages was largely settled in the 1970s as the development of touchscreens began to accelerate. They aren't just the way of the future – they are the reality of the present, and the quality of the future for people who are blind or have low vision depends to a large extent on how strategically and collaboratively we choose to engage with this technology now. Touchscreens present new challenges, but they also present new opportunities for accessibility. If we are to overcome the challenges and take advantage of the opportunities, we will have to work together as a sector. If we don't work cooperatively together to achieve consensus, then instead of riding the technological waves we will find ourselves drowned by them.

The Round Table is in a unique position to offer leadership to the print disability sector, and to monitor and provide information about the work that is underway to develop

international standards and guidelines around touchscreens, as well as related initiatives such as plans for the adoption in Australia of the European Standard for Accessible ICT Procurement (EN301 549), the release of new EU guidelines for web accessibility, and developments in public sector web accessibility in the US.

The prayer for the '70s that I touched on earlier concludes with a call for a miracle so that "man should love his kind in all his skins and pigments, and kill no more." The next chance we'll have for another prayer for the '70s will be in 2070, a mere 54 years from now. I fervently hope that the blindness and low vision community will not find ourselves compelled to call for a miracle to give us independent access to coffee machines, treadmills, dry cleaning, banking services, and all the other aspects of life that in 2070 will be controlled by touchscreens. But whether we will need such a miracle depends on the choices that we, as a sector, make now, today and tomorrow. It's up to us – and that really is all there is to it.

Bruce Maguire
Lead Policy Advisor, Vision Australia, Sydney Australia
Email: Bruce.Maguire@visionaustralia.org

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Book Review

I-M-ABLE: Individualized meaning-centered approach to braille literacy education

Author: Wormsley, D.P.

New York, NY: AFB Press, American Foundation for the Blind, 2016
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ISBN 9780891287254 (epub)
ISBN 9780891287247 (mobi)

In August 2016, I had the great privilege of co-presenting with Diane Wormsley at the General Assembly of the Word Blind Union and the International Council for Education of People with Visual Impairment (ICEVI) in Orlando Florida. Diane's presentation was closely linked to the release of her new book, entitled I-M-ABLE: Individualized meaning-centered approach to braille literacy education. I was lucky enough to receive a signed copy of the book from this world-renowned author.

Dr Diane Wormsley commenced her professional career in the field of vision impairment in 1968 at the New York State School for the Blind. She spent some time in the Pacific region, teaching at the Narbethong State Special School in Buranda Queensland, and at a two-teacher International Primary School in Papua New Guinea. Diane was a keynote speaker at the 2003 SPEVI Biennial conference in Queensland. In more recent years, her professional activities have included teaching at the Illinois State University in the Teacher Preparation Program, Regional Director for American Foundation for the Blind (AFB), establishment of the AFB National Initiative in Literacy, Education Manager at Overbrook School for the Blind in Philadelphia, and Associate Professor and Program Director for the Professional Preparation Program for Teachers of Children with Visual and Multiple Impairments at the Pennsylvania College of Optometry.

Diane Wormsley is best known for her publications on braille literacy, including **Foundations of braille literacy** (Rex, Koenig, Wormsley & Baker, 1994), **Instructional strategies for braille literacy** (Wormsley & D'Andrea, 1997); **Braille literacy curriculum (**Wormsley , 2000**);** and **Braille literacy: A functional approach (**Wormsley, 2004). Her most recent publication, I-M-ABLE, presents a practical braille literacy approach for learners with vision impairment and mild to moderate cognitive disabilities or other literacy difficulties. Central to I-M-ABLE is the student-centred whole word and key vocabulary approach of Sylvia Ashton-Warner, who taught New Zealand Maori children during the 1960s. Wormsley has adopted Ashton-Warner's technique of identifying the key words that have emotional significance and intensity to the individual

learner. This technique is coupled with continuous analysis of the strengths and needs of the learner, and establishment of a student-centred, braille-rich learning environment that allows the learner to associate reading and writing with meaningful real-life experiences.

The structure of the text includes a general introduction to the I-M-ABLE braille literacy approach in chapter 1. This is followed in chapter 2 with assessment and early literacy instruction (chapter 2), selection and introduction of key vocabulary words and phrases (chapters 3-4), teaching tracking across multiple lines of braille (chapter 5), meaning approaches to teaching writing mechanics (chapter 6), and the and use of key vocabulary works to teach phonics, letter recognition, braille contractions, story creation and writing fluency (chapters 7-10). Included in the extensive appendices are several useful data collection forms.

Wormsley's I-M-ABLE text is a valuable resource for families, educators and allied professionals supporting brailler learners with vision impairment and cognitive or other disabilities. I-M-ABLE is available from the AFB Bookstore in paperback, online, or eBook (ePub and Kindle) formats – see www.afb.org/store/.

Frances Gentle
RIDBC Renwick Centre
Royal Institute for Deaf and Blind Children
361-365 North Rocks Road, North Rocks, NSW
Australia 2151
Email: frances.gentle@ridbc.org.au

Report: Sonokids Ballyland Software series - news and new additions - Phia Damsma

Sonokids is a Queensland based not-for-profit developer of innovative, educational software. Sonokids aims to enable children who are blind or have low vision to develop their full potential in using technology, such as a computer or mobile touch screen device. Sonokids Ballyland is a series of software that is specifically designed to support the early development of technology skills by children who are blind or have low vision. The software was shortlisted for the prestigious 2016 National Disability Award for Excellence in Accessible Technology. Starting early is advantageous, and Early Learning is best done in a supportive environment, which enables children to play and learn jointly with their sighted friends. The Ballyland characters are five balls who live in Ballyland. The Ballyland range includes:

Ballyland Early Learning keyboarding software – computer game for Windows PC's and Mac computers (not suitable for mobile touch screen devices). The game is designed to support playful learning of foundation keyboarding skills by children who are blind or have low vision. 'Any Key Goes', with engaging sounds, images, stories and songs, enables children to explore the computer keyboard independently and supports 'mapping' of the keyboard. Additional 'Key Games' introduce five keys that are important for future use with assistive technology. The program is widely used around the world. It has demonstrated success with children with vision impairment, as well as children with other or additional special needs. Available from www.ballyland.com

Stay Still, Squeaky! - interactive audio eBook for iOS or Android mobile device. The fun story about Squeaky, the bouncy Ballylander, who needs to stay clean before a visit to grandmother has great audio and visual effects. To interact with it, the child only needs to use very simple, 'informal' gestures, such as touch and swipe. It is perfectly suited as a first fun and safe introduction to an iPad for young children with vision impairment and their sighted friends and siblings. Available from Apple iTunes (Android: www.ballyland.com)

Ballyland Magic app – iPad game that helps children who are blind or have low vision to learn accessibility concepts and fundamental touch gestures for VoiceOver, Apple's built-in screen reader for iOS mobile touch devices. The app is recommended for children aged 6+ years, but younger and older children have successfully used it as well. Released in April 2016, the app has been very well received by parents as well as teachers worldwide. Children who use the app have such fun with it, that they don't realise that they are learning essential skills. Available from the App Store.

Ballyland Rotor – iPad game around the VoiceOver Rotor gesture. Developed as a result of a successful crowd funding campaign. Available from the App Store. Download free 3D print file for Ballicopter learning tool from Ballyland website.

Phia Damsma
Creative Director, Sonokids,
and
SPEVI Web Administrator and List Moderator
Email: phia@sonokids.com

Report: HumanWare Australia - Ramona Mandy

New HumanWare Products

Here is an update on product development from HumanWare. In the past year, we have released a new braille device, and 2 new magnification solutions. All are very applicable to the education environment, and have some significant outstanding features.

BrailleNote Touch

The BrailleNote Touch is the world's first Google certified Braille accessible tablet. This portable device enables students to read, write and complete tasks in Braille. It is simple and intuitive to use due to the interface known as KeySoft. Students can use first letter navigation to quickly access desired items such as files, documents and programs. KeySoft also provides keyboard shortcuts to efficiently accomplish tasks and contextual help to provide assistance anytime. Being based on an android Tablet, students are able to access any accessible 3rd party apps from the Play Store. For example if the school requires their students to use Google Docs or YouTube then this will be possible.

The BrailleNote Touch can connect to the school network and other devices which means the student can access the internet and participate more broadly in school activities. Additionally, a built-in visual display can be used by teachers, sighted students and family members to offer assistance to, or collaborate with, the student on school work.

Prodigi Connect 12

This portable desktop magnifier featuring a 12 inch tablet, stand and camera is an ideal solution for students in a classroom, who require both magnification for print, and distance viewing. Simple and comfortable to use, the operation is based on use of touch gestures and is housed in a sturdy carry case.

Given that it utilises an Android tablet, students can have access to mainstream Apps with the Prodigi Connect 12. They can also capture a printed document or softcopy document from the internet, and display it in perfect Diamond Edge text (a font that won't pixelate no matter how magnified it is). Text can be saved and displayed in various reading modes to accommodate different eye conditions.

Explore

The explore range is HumanWare's new line of electronic handheld magnifiers. They are small, light-weight and available with a 3, 5 or 7 inch screen. Freeze-frame, colour mode selector and large, easy-to-find buttons, are just some of the appealing qualities of these devices.

If you would like to arrange a demonstration, be sent further information, or have questions, please contact HumanWare on Tel: 02 9686 2600 or email au.sales@humanware.com.

Ramona Mandy
Blindness Product Specialist
HumanWare
Email: au.sales@humanware.com

Report: Australian Braille Authority - Leona Holloway

The Australian Braille Authority (ABA) is a subcommittee of the Round Table on Information Access for People with a Print Disability Inc., devoted to setting standards and sharing information for the use of braille in Australia.

ABA is pleased to report on the publication of the ABA Rules and Guidelines for Formatting Braille (2016). The guidelines provide much-needed clarity and assistance for the formatting of braille in Australia. Building on the previous guidelines from 1995, the new document defines a small number of rules which must be followed to adhere to ABA standards, mainly relating to braille document structure to ensure consistent and easy navigation. A much larger number of guidelines are provided as advice for best-practice formatting. Application of these guidelines is suggested according to the following principles:

- braille formatting need not follow the print layout exactly
- provide easy navigation
- consider the reader
- be consistent throughout a document.

Each rule or guideline is supported with examples and updated instructions on how to achieve good formatting using Duxbury Braille Translator software and Microsoft Word. The guidelines are available for free download in print and braille from the ABA website at http://brailleaustralia/about-braille/formatting. They are an essential reference for candidates of the Trans-Tasman Certificate of Proficiency in Unified English Braille and should provide general support for the production and use of braille.

Thanks are extended to the ABA's braille formatting working party for their expertise and long-term commitment in completing the guidelines: Christine Simpson (Information Alternatives), Kathy Riessen (SASVI), Josie Howse (NSW Department of Education and Communities), Shirley Henderson (WA Department of Education), Colleen Flood (Vision Australia) and the late Linda Triasmono (QBWA).

Leona Holloway
Editor, ABA Rules and Guidelines for Formatting Braille,
Australian Braille Authority
Email: aba@printdisability.org

Report: Monash University Accessible Graphics Project - Leona Holloway, Dr Matt Butler and Prof Kim Marriott

Researchers from Monash University's Faculty of IT in the Immersive Analytics and sensiLab research groups have been undertaking several projects related to the provision of accessible graphics to students. These include a major Office for Learning and Teaching (OLT) funded project understanding the current challenges in provision of accessible materials along with the development of a practical model for improving delivery to university students with severe vision-impairment, as well as a number of smaller projects investigating specific technologies to improve access to graphics by people who are blind or have low vision.

Improving vision impaired students' access to graphics in higher education

This two-year project aims to improve vision impaired students' access to graphics in higher education. It began with a national online survey of vision impaired students in higher education and semi-structured interviews with students, their disability support staff, academics and accessible formats producers to determine and evaluate current practices. It was found that most vision impaired students at university miss out on at least some potentially important graphics, and that lack of access impacts on their choice of study area and ability to participate in group work. Full results and analysis are available at http://www.tandfonline.com/doi/full/10.1080/07294360.2016.1177001.

A series of pilot studies were then conducted with a small number of students and their support staff to trial strategies for improved access to graphics. Enhanced communication, use of tutors to provide on-the-spot access, and a broad array of graphics accessibility options proved successful.

Finally, a workshop was held with representatives from all stakeholder groups. Difficulty in transitioning from school to university was highlighted as an issue, with students being expected to arrive at university with the assistive technology skills and equipment they require as well as the confidence to advocate on their own behalf. A full project report will be made available through the OLT.

GraVVITAS

GraVVITAS is a system for quick and easy creation and distribution of graphics with audio feedback, developed by Cagatay Goncu. It consists of a simple online tool for creating the graphics, and an iOS app for access via touch, sound and audio labels. A

graphing function has recently been added to the authoring tool, allowing automated creation of line, bar, pie and scatter graphs from an equation or data. Development work continues on added functionality for automated recognition and conversion of floorplans. Also in development is a haptic ring that provides feedback in the form of vibrations for the Reader app and can potentially be used for other purposes. The GraAuthor tool is located at http://raisedpixels.com/author and the Raised Pixels Reader app can be downloaded from the iTunes store. Both are free to use and queries and feedback are welcomed.

3D printing

Use of both GraVVITAS and 3D printing have been tested with vision impaired school children, university students and adults. 3D printing offers a new and increasingly affordable option for creation of accessible graphics. It is said to be useful for anything too large, too small, too fragile, too rare or too dangerous to touch. Objects of greatest interest to our participants were maps, topography, landmarks and biology. Touch readers reported being able to form a more complete and memorable mental image using a 3D model compared with a tactile graphic. 3D-printed objects also present an opportunity to teach concepts of abstraction from the real world to abstract, two-dimensional representations.

Labelling presents a particular challenge for 3D-printed objects. Braille labels can be added but spacing is limited. We created several talking maps with audio labels for points of interest and we are exploring a range of affordable options for associating audio descriptions with 3D-printed objects. More work is planned in this area.

Leona Holloway, Dr Matt Butler and Prof Kim Marriott
Monash University
Faculty of Information Technology, Victoria
Email: leona.holloway@monash.edu

Report: Reach & Match® Learning Kit and Inclusive Learning Program - Mandy, Shuk-Man Lau

Research and Design Objectives

Reach & Match was developed from postgraduate research into learning for children with vision impairment and multiple needs. The research included the trend of braille application, resources for braille learning, and social and cultural barriers that children with disabilities facie in mainstream settings.

The first objective of the Reach & Match design was to help children with vision impairment develop an incentive to learn braille at their early age. Children with vision impairment may have additional disabilities, such as cognitive, developmental, hearing, or mobility impairments. The second objective was to offer well-designed exercises to assist children to develop effective functional skills, such as body concept, position in space, figure-ground discrimination, gross and fine motor skills, tactile awareness, communication and social skills. Inclusion is important, yet may be hard to achieve, especially among children with vision impairment and multiple needs. Last but not least, the third objective was to design an inclusive and fun resource for children with differing abilities to learn and play inclusively. The design supports the teaching of mutual respect and understanding, and raises awareness of different forms of language.

User-centric design methodologies and co-operative approach

The research and design development was developed in collaboration with early childhood educators, vision support teachers, speech pathologists, occupational therapists, orientation & mobility instructors and parents. A wide range of research and design methodologies were used, including a background study (social, cultural & economic problems), study of user profiles, market research, focus group interviews, group observation analysis, concept development, anthropometric analysis and model testing for children who have different degrees of vision loss with or without additional needs.

To create a truly inclusive design, we needed to understand the physical and social needs of students with vision impairment with complex needs. The design dialogues opened up a deep consideration on every detail, and the design concepts would not have been possible without understanding the complexity of early intervention for children with sensory impairment and additional needs. The design was directly in response to the circumstances and needs of blind children, such as tactile fantasy, hearing pleasure and bodily awareness. Observation and testing were the most

valuable areas of the research in order to select the appropriate communication options for the design.

What is Reach & Match® Learning Kit?

Reach & Match is a beautiful combination of braille & print literacy, sensory elements and interactive features, which together allow children with and without disabilities to play inclusively. We designed meaningful activities which focus on exploration, interaction and active movement.

The whole kit is composed of different parts: double-sided sensory play mats (see Figure 1), braille and print double-sided sensory tiles containing 4 sounds, a cushion and a portable bag. The kit also comes with an inclusive learning program which offers a detailed guide for users.

Figure 1

Reach and Match Learning Kit

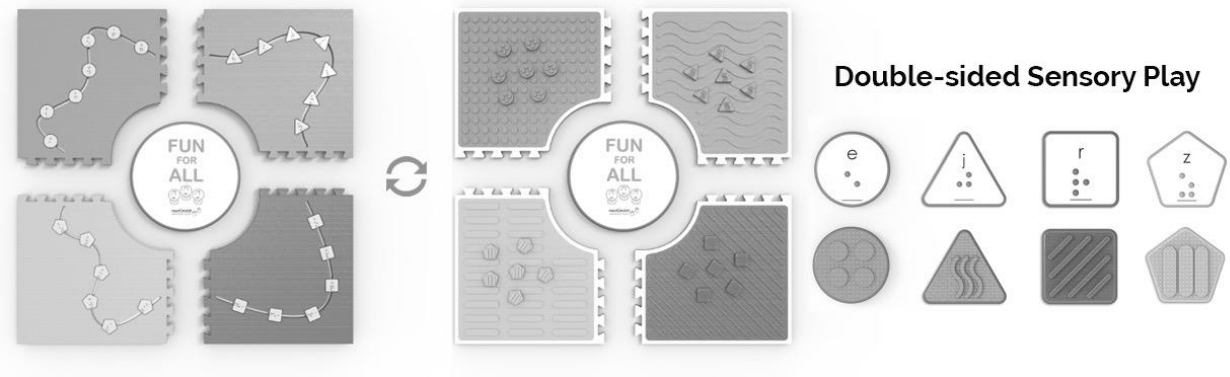

Figure 1 description: Left –the four Reach & Match mats, red, blue, green and yellow are organized in a square, in two rows of two, with the round cushion in the middle. The mats show holes of differing shapes for the tiles with the same four colours as the mats along with a trail for the tiles. Center –The four Reach & Match mats are shown with the opposite site upwards, with tiles of differing shapes and surface textures on mats with different surface textures. Right – each shape of Reach & Match tile is shown: circle, triangle, square and pentagon. In a top row, each tile is shown with both a braille and roman letter. In the bottom row, each tile is shown with a different surface texture: circles, waves, short fat ridges, and thin diagonal lines.

Reach & Match is unique in its flexibility. It allows toddlers to develop physical dexterity, hearing and tactile skills. It can be used to create complex games for children with varying abilities, including training in memory, direction and special awareness. Reach & Match can create both 2D and 3D configurations, with combinations of mats used to create unlimited ways to play. Reach & Match is designed with the purpose of class-size

play to maximise its use and portability. This design feature enables therapists and visiting teachers to carry the kit to different places for a wide range of users. Reach & Match has been tested to comply with worldwide safety standards including those in Australia, New Zealand, United States, Europe and Japan.

Reach & Match Inclusive Learning Program

The R&M Inclusive Learning program was developed in collaboration with professionals and early intervention specialists. Our team designed 30+ activities and games based on 7 learning outcomes: Braille Learning, Cognitive Skills, Sensory Integration, Sense of Satisfaction, Language Enrichment, Body Movement and Social Interaction. We spent nine months designing the content of the program, which includes observation, testing, evaluation and documentation. Meaningful and functional exercises and games were selected for inclusion in the Reach & Match® Inclusive Learning Program. Teachers, therapists and children are inspired to design their own games and share to us; and a community is therefore formed, which encourages sharing and learning from one another. We also provide consultation support via telephone, skype and visits for users' applications, especially for the service providers who work with individual children with specific and complex needs. We continuously receive positive and encouraging feedback from therapists and teachers on how they are using the kit, for example:

"The Children's Mobility Service at Guide Dogs Victoria has used Reach & Match as a teaching tool in a number of individual and group programs and camps. The suggested activities provided in the booklet offer a range of opportunities to develop Orientation & Mobility skills as well as games to promote self-initiated movement and creativity in children..." – Children's Orientation & Mobility Team, Guide Dogs Victoria

"The Reach & Match Learning Kit provides a high quality curriculum tool. It sets a high benchmark and in doing so delivers a powerful message about the importance of providing all children with access to the best materials to shape and nurture their learning…" - Vision Service, Department of Education, Tasmania

"Students have used the large mats both in horizontal and vertical configurations to further encourage exploration of their environment. The path and tiles were ideal to introduce new letters and their order and position in the alphabet. The flexibility of the Reach & Match system has allowed us to use it in our P.E. and Music programs, as well as in the Junior school class" - Insight Education for the Blind and Vision Impaired

Reach & Match Workshops in Brisbane, Sydney and Adelaide

During 2016, we have held our first workshops in Brisbane, Sydney and Adelaide. Participants included teachers and specialists from the Queensland Department of

Education, Vision Australia, RIDBC, Guide Dogs NSW/ACT, NSW Department of Education and Communities, Royal Society for the Blind, Guide Dogs SA/NT, CanDo 4 Kids, Kilparrin Teaching and Assessment School and SASVI. The workshops provided opportunities for participants to understand the research behind Reach & Match, learn its applications and inclusive ideas, and have hands-on experience with the whole kit.

The workshops were highly successful and we received excellent feedback from enthusiastic participants. Reach & Match and its learning program have now been adopted by the schools and organisations, and teachers and therapists are inspired and share their inclusive and joyful experiences of applying the kit at schools. We look forward to seeing their students' progress and will continue to provide them with support and consultation.

International Social Design Awards and Social impact

Reach & Match has been well-received and achieved awards in such areas as Education, Inclusion and Assistive Technology - Australian Good Design Award (Social Innovation); Red Dot Award (Education); James Dyson Award (Australian Winner); and Monash Vice-Chancellor's Social Inclusion Design Award. In last few years, we have had opportunities to present and exhibit Reach & Match internationally, including the United Nations Social Innovation Fair in Switzerland, Milan Well-Tech Award (Milan Design Week), Red Dot Museum in Singapore, and the Design Museum of Barcelona (Exhibition: 99 life solutions in the world).

Reach & Match's impact on inclusion on children with and without special needs is tremendous. It was initially applied in Monash Education as a teaching tool for the Early Childhood and Special Needs degree. Reach & Match enables future teachers to learn about inclusive education and has been used during student practicum placements in a range of schools. Reach & Match has been adopted by leading service providers and schools for students with blindness and low vision in Australia, enabling children and their families across Australia to enjoy its benefits. Reach & Match is starting to be used in schools for special needs in Australia and internationally.

We are passionate to collaborate with people who share the same vision as us. If you are a teacher, therapist, researcher or parent interested in our work or forthcoming projects, please email the author (details below).

Mandy, Shuk-Man Lau
Designer & Founder
Reach & Match®
Email: mandy.lau@reachandmatch.com
www.reachandmatch.com

Report: RIDBC Teleschool Services - Tracey McCann

The Royal Institute for Deaf and Blind Children (RIDBC) is Australia's largest non-government provider of education, therapy and cochlear implant services for children and adults with vision or hearing loss, their families, and the professionals who support them. RIDBC provides traditional face-to-face or 'in-person' services for people with vision or hearing loss, from 18 permanent sites and a network of visiting sites throughout Australia. RIDBC Teleschool provides remote delivery of specialist education, therapy and cochlear implant support services using high-quality video-conferencing technology, delivered directly into a client's home or other local facilities. These remote delivery services involve a range of technology in accordance with local conditions and what is available to individuals and families.

Experienced RIDBC therapists and teachers tailor an individual program for each child, that may include intensive regular individual sessions; group sessions for children and family members; listening and spoken language development; Auslan (Australian Sign Language) support; braille tuition and vision loss support; parent networking and information; a lending library with child and parent resources; and transition to school and school support programs.

RIDBC's 'blended service' model provides children, adults and families with a combination of traditional face-to-face or 'in person' sessions, as well as remote sessions. For example, a family living in rural Australia may receive the majority of their sessions remotely, but visit RIDBC once a term for individual and group sessions if needed.

The following links feature stories and videos about the children, adults and families that RIDBC supports using video-conferencing technology:

- Tim's story - https://youtu.be/4nTG9zAEGZw- this video tells the story of Tim who lives in regional Australia and is supported by RIDBC Teleschool.
- Morgan's story - https://www.youtube.com/watch?v=L02s7K1puS8 - this video tells the story of Morgan who is four years old and is blind. She accesses RIDBC Teleschool from her home in regional NSW and is being supported to learn braille and develop the skills she will need to succeed in school.
- National Story Time - https://www.youtube.com/watch?v=xLgWfTI2uDw – in this video several children are participating in National Story Time (which is when children around Australia all read the same book at the same time on the same day). It's a fun way to see everyone interacting and getting involved despite being separated by many hundreds of kilometres and state boundaries.

- RIDBC Teleschool - https://www.youtube.com/watch?v=hXAZQD1lnUU – this is a longer video that goes through various aspects of RIDBC Teleschool in more detail.
- Stanley's Story - http://www.ridbc.org.au/stanley-jabiru - this written story introduces Stanley, who is a cochlear implant recipient who receives weekly videoconferencing sessions in his home with occasional in-person services from RIDBC Darwin.

Tracey McCann
Head of RIDBC Teleschool
Royal Institute for Deaf and Blind Children
361-365 North Rocks Road, North Rocks, NSW 2151
http://www.ridbc.org.au/teleschool

Report: International Council for Education of People with Visual Impairment - Ben Clare

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.

2016 was another successful year for ICEVI. In August, the joint assemblies of the World Blind Union and ICEVI were held in Orlando, USA and as well as showcasing the latest developments in the vision education sector, the event strengthened the ongoing partnership of both organisations in the shared vision of achieving education for all children with vision impairment, a campaign that has been promoted jointly since 2006 and continues to positively impact children who are blind or vision impaired and their families worldwide. There is a long way to go before this significant goal is achieved but positive steps are being taken. ICEVI and the World Blind Union work within several initiatives and instruments which promote education including the UN Convention of the Rights of People with Disability and the Inchon Strategy.

During the joint assembly events, Dr Frances Gentle who is well known to all of us achieved a major milestone of her own when she was elected President of ICEVI for the upcoming Quadrennium (2016/2020.) This is a major and vital role within the global disability sector and is well deserved. Dr Frances is respected the world over for her extensive knowledge and significant contribution to the education of teachers who work with blind and vision impaired children.

Earlier in the year, I was very honoured to be elected Pacific Chairperson for ICEVI. I have very big shoes to fill when it comes to this role but I feel well supported and with my own knowledge of vision education and work throughout the Pacific, I sincerely hope I can assist with ongoing ICEVI activities in this region.

In reference to the Education for All Children with Vision Impairment (EFA-VI campaign, many exciting things are happening throughout the Pacific which are having a positive impact on this campaign and disability rights in general. In Fiji, Kiribati and Papua New Guinea, Ministries and Departments of Education are working to implement extensive inclusive education policies which specifically recognise the right to education for all

children, including those with disability. These policies were produced by education experts and were widely consultative, drawing on the knowledge of service providers, disabled people's organisations, schools, universities and donor agencies. In May 2015, the Australian Department of Foreign Affairs and Trade (DFAT) launched its Development for All strategy which aims to be inclusive of people with disability in all aspects of Australia's overseas aid program. This 5-year initiative seeks to ensure people with disability are not excluded from implementation of aid that may affect them, both adversely and positively and also aims to be consultative of the needs of people with disability. As Australia is active in supporting disability education activities throughout the region and as the Sustainable Development Goals make specific reference to inclusive development, much has been done since the launch of the Development for All strategy in directly funding the implementation of inclusive education policy. Some examples include the Access to Quality Education Program) AQEP in Fiji which has seen a marked increase of the enrolment of students with vision impairment in educational institutes, both regular schools and disability service providers. The program provides training for school teachers as well as special educators who are responsible for supporting blind and-or vision impaired students attending school.

In Kiribati where the inclusive education policy has just been approved for implementation, the Ministry of Education moved swiftly to formally recognise service providers offering educational opportunities to students with disability and have undertaken to fund scholarships for teachers to study special and inclusive education as well as financially supporting regular schools and service providers so that more students can be reached and included in education.

Earlier this year, I was fortunate to spend five months in Kiribati where I helped oversee the first phase of the country's inclusive education policy, an initiative supported by the President of Kiribati and the Ministry of Education. As well as an expansion of services offered at the School and Centre for Children with Special Needs, the only school of its kind in the country, the first student with vision impairment was enrolled in a regular school, supported by a visiting teacher funded by the I-Kiribati and Australian governments as part of the first implementation phase. I was responsible for training the visiting teacher and also utilised the extensive talent within the Special School to achieve this goal. The student who is in 5th form (year 10) is a Braille reader and computer user. The School and Centre for Children with Special Needs works closely with the Ministry of Education and the local school to ensure books, exams etc., are transcribed and printed materials made available in electronic format. Within a month of enrolment, the student was achieving high grades in class and the teachers at school

were very supportive of inclusive education. It is my understanding more students will be enrolled in other schools throughout South Tarawa, the capital during 2017.

As well as increasing opportunities for students who are blind or who have low vision to attend school, new opportunities also exist for students to enrol at the Kiribati Institute of Technology, a college that offers diplomas in various fields of study and which are fully recognised by TAFE in Australia. In July 2016, six blind and vision impaired students enrolled in ICT courses and graduated in December. They will move onto diploma level this year. Also commencing this year will be the offer of carpentry courses to students with hearing impairment and who attend the Special school. All this is part of an employment training program run by the school and Kiribati Institute of Technology.

On a government level, the Kiribati Teachers College has an extensive inclusive education module that is compulsory for all trainee teachers to complete as of 2016. It contains extensive research and practical components and was designed by an Australian volunteer with more than thirty years' experience in the special and inclusive education sector in Australia.

While these positive developments occur in Kiribati, similar things are happening in Papua New Guinea as the Department of Education implements its own extensive inclusive education policy. It works closely with Callan Services, a special ministry of the Christian Brothers that offers extensive disability support service throughout the country. Over the next five years, Callan Services will support the inclusive education policy by providing training to all studying teachers and visiting teacher support to enrolled students. This is jointly funded by the Australian and PNG governments along with relevant donors including CBM, UNICEF and Light for the World.

Similar education policies exist or are being implemented in Tonga, Vanuatu, Samoa and Solomon Islands. Samoa and Solomon Islands also ratified the UN Convention on the Rights of People with Disability as it celebrates its 10th anniversary.

Ben Clare
Chair, ICEVI Pacific and
ICEVI Representative for SPEVI
Email: bwclare@gmail.com

Special Recognition - Tricia d'Apice

RIDBC Teleschool, Royal Institute for Deaf and Blind Children

Tricia d'Apice has been awarded a NSW Premier's Teacher's Scholarship, funded by the IOOF. Her area of research is Braille reading rates for Australian and New Zealand children who are blind, including comparison of reading rates for children who are blind and their sighted peers. Tricia will be conducting face-to-face and online surveys with specialist teachers (VI) in Auckland and Christchurch (NZ), and Sydney, Melbourne, Adelaide, Perth, Brisbane and Far North Queensland. The survey questions will explore participants' perspectives on teaching methodologies, teaching materials, and Braille code mnemonics.

Tricia's SPEVI colleagues wish her every success in this important area of research.

Tribute - Maureen Mdreyeh

Contributed by James Aiwa

Maureen Mdreyeh completed a Bachelor of Education at University of Goroka (UoG), Papua New Guinea, majoring in Special and Inclusive Education and minoring in Curriculum Studies. She developed confidence, maturity, and enthusiasm to address the diverse needs of children with special educational needs in mainstream schools in Papua New Guinea. Maureen was a highly motivated and conscientious student who was well respected by the university staff. She became a leader of the Special Education major students during her two years of study, and was instrumental in establishing the UoG Special and Inclusive Education Association.

Maureen was one of the top students in her UoG class. She received an Academic Excellence Award at her 2016 graduation ceremony. With her passion and interest in working with students with special educational needs, she raised funds to attend the 2015 SPEVI Biennial Conference in Melbourne.

Tribute - Celebrating 60 Years - Eric Searle OAM

Principal Narbethong, School for Visually Handicapped Children, Brisbane (1963-1988), Member of the SPEVI 1962 – 1988, Life Member

Heather Grainger

During the early years of SPEVI (known as AATB and then ANZATB), educational provision for students with vision impairment was usually centralised in the capital cities. The schools were run by the states' education departments, voluntary associations or church organizations. Because of the location of the schools many students with vision impairment who lived away from these centres were required to travel from their homes to receive an education. As a result, organisations such as the Royal Institute for Deaf and Blind Children (NSW), St Lucy's School (NSW), St Edmund's School (NSW), the Royal Victoria Institute for the Blind (Vic), St Paul's School (Vic), Narbethong (QLD) and Homai College (NZ) provided the educational programs and were charged with the day-to-day care of the students within boarding facilities. The men and women in charge of these schools and institutions played an important role in the development of educational programs and facilities for the students. Their leadership roles included direct involvement in the effective operation of SPEVI.

The education leaders during the 1960s and 70s included Tom Grunsell, Keith Watkins, Brother John Adams, Charlie Douglas, Tom Rogerson, Roma Shilling, Sister Margaret Short and Eric Searle.

Principal of Narbethong

In 1962, Eric Searle was appointed the first head teacher/principal of Narbethong State Special School (then known as Narbethong School for Visually Handicapped Children) in Brisbane Queensland. Eric Searle played an innovative and pivotal role in the development of Queensland's educational services for students with vision impaired. Prior to 1962, children with hearing and vision impairment were educated on the same campus but in separate schools at the Queensland School for the Blind and the Queensland School for the Deaf at Dutton Park, Brisbane. During that year, Narbethong School was established in a vacant school building at Buranda a few kilometres away. It had a staff of five and Eric had the dual roles of class teacher and head teacher responsible for the school's operation. The boarding facilities remained at the School for the Deaf. Initially, Narbethong was the only school in Queensland providing programs for primary-aged students with vision impairment. Secondary studies were undertaken at the Cavendish Road High School where a program had been established in the late

1950's, the first of its type in Queensland. The Cavendish School program was supported on a part-time basis by Tony Mulroney, one of the Narbethong teachers.

Eric Searle's initial teaching background in the late 1950s was in education of students with hearing impairment, and his formal training in deaf education took place in Victoria. It was during these years that Eric and his wife became involved in providing a group home for deaf children under the age of 5 years in a cottage on the Dutton Park campus in Brisbane. This experience provided Eric with an understanding of the importance of creating a family environment for students who lived away from their parents during the term. In 1962, Eric moved into teaching students with vision impairment and became involved with the Australian Association of Teachers of the Blind (AATB).

Throughout his years as Principal of Narbethong, Eric was an advocate for children and adults with vision impairment, finding ways and means to improve their educational facilities and standard of education. He became involved in local associations for adults with vision impairment, negotiated vigorously with local politicians and members of local service clubs for additional resources. In the early years of the Narbethong School there was a lack of equipment and funds but Eric was an innovator and entrepreneur.

During a study tour of the USA in 1967, Eric visited the Lighthouse for the Blind in New York, which provided a wide range of services for children. Eric could see that such an innovative service could be of benefit for students in Queensland, and the concept was accepted by the Queensland Department of Education. In 1974 the initial Paediatric Low Vision Clinic (PLVC) was established and included a consultant ophthalmologist, optometrist, guidance officer and an experienced teacher. The service was unique in Australia, and provided detailed assessment of the educational implications of the vision impairment and recommendations for use of appropriate low vision aids. The information provided by the PLVC is still an essential component in the provision of appropriate educational programs for students throughout the state.

An extensive building program Narbethong School was completed in 1979 with the original Buranda Infants building replaced by a specifically designed multi-storied complex to meet the educational needs of students with vision impairment. The overall cost of the complex (including a lift) was almost $2 million. It was Eric's vision that inspired this new phase for Narbethong. From the beginning he was closely involved in the planning process, working with the architect and using his expertise gathered from trips overseas to make sure the building suited the educational and physical needs of the student population. Teaching facilities included purpose built rooms that were specifically designed for teaching home economics, science, music, early intervention and programs for deafblind students. A fully equipped Paediatric Low Vision Clinic was

included in the new building. Just before Eric's retirement in 1998, and through his advocacy, a new facility was built at the Buranda site to house a manual arts program.

Over the years, Eric was instrumental in establishing other relevant programs to meet the educational needs of the range of students with vision impairment. These programs included the following:

- The first educational program for those students who were deaf and blind (1967).
- Early Intervention for babies and children under 5 years of age. The staff member involved in the centre-based program also provided a visiting program.
- The first full-time Advisory Visiting Teacher service to support students with a vision impairment in the regular primary, secondary school and special schools (1974). The service was initially offered in the south east corner of the state with similar programs soon established in major regional centres. The service replaced the part-time support offered by the centres that were established by Eric and Tony Mulroney during the 1960s and early 1970s.
- Introduction of new technology with a vision impairment. Eric established a program to train teachers from throughout the state in the use of the OPTACON, which enabled blind students to read print (1976).
- Adult evening classes in speed braille reading, basic science, and the OPTACON (1978).
- Programs for students with vision impairment and additional disabilities, including pre-vocational and work experience programs such as an Amateur Radio Station.

As the educational programs for students with vision impairment were decentralised and specific special education units and classes were established in the major regional centres, Eric advised on operational considerations. Because of his expertise in this area of education, Eric was often invited to be a part of reviews and projects that were initiated by the Central Office of Education Queensland. The outcome of these projects and reviews often had implications for the broader area of education for students with special educational needs. Eric was on committees to review the Decentralisation of Services for Students with Vision Impairment in Queensland (1982), and to develop the first Ascertainment Guidelines process for recommending support (1985) that continues to be used by many other disability areas within Education Queensland.

Because of his early experiences at the School for the Deaf, Eric was conscious of the difficulties faced by country students who came to Brisbane for education and who lived in boarding facilities for the school term. Following a visit to Holland in 1967, Eric was

instrumental in establishing a private accommodation scheme by the Education Department for country children with either a vision or hearing impairment. This scheme enabled students to obtain the benefits of living in a family situation rather than in a boarding facility. Once that program was running successfully, Eric organised the establishment of a residential cottage for deafblind students who lived away from home. The cottage was similar to one that he and his wife had supervised, and was situated on the campus of the Deaf School at Dutton Park.

The needs of isolated country students were always of concern to Eric. He was instrumental in forming the Narbethong Welfare Association (Blind and Low Vision Youth Support Association). Through a bequest the Association purchased a house next door to the school. In a few years this house was replaced by a four unit complex used by children with vision impairment, country families and educators. It provided another environment to learn independent living skills as well as being used by parents of country students while their children were having medical specialist appointments in Brisbane.

Teacher training was another aspect in which Eric became involved.

- Eric a part time lecturer at Mt Gravatt Teachers College from 1972 - 1974 and was involved in the setting up of full time courses in 1974 to train teachers to work with students with a vision impairment at that tertiary institution (now Griffith University). Tony Mulroney, formerly deputy principal at Narbethong, became the first lecturer.
- Eric was the catalyst for offering of teacher scholarships for training as Orientation and Mobility teachers in Melbourne. He recognised the importance of their role as an essential component of quality programming for students with a vision impairment.

Always active in the Parents and Citizens Association and often a member of the executive, Eric's qualifications in accounting enabled his to understand the 'in and outs' of applying for government funding. In conjunction with the P & C Executive of Narbethong and the Queensland School for the Deaf, Eric negotiated Commonwealth funding for the purchase of land and the building of a lodge on the Moreton Bay island of Coochie Mudlo. Ongoing Commonwealth funding allowed the Lodge to function successfully for many years. This facility was part of the Queensland educational program for students with vision and hearing impairments and enabled them to learn essential survival and real life skills.

The construction of the lodge was a feat in itself and took much organisation – one of Eric's strengths. One section was built by the local Apex Club and the other section was built with the aid of a subsidy from the Commonwealth Department of Social Security. A

generator engine was donated by a sugar mill in North Queensland and transported to the island by the Army as part of a training exercise. Delegates to the 1986 ANZATB Brisbane conference were entertained on the island with a bush dance and barbeque.

Involvement with ANZATB

As mentioned previously, Eric became involved in the Australian and New Zealand Association of Teachers of the Blind (ANZATB) in 1962 when he was appointed to the staff of the Queensland School for the Blind. Eric's involvement as a member of any association was never half-hearted. He was always a committed member willing to take on additional responsibilities. During his years as a member he was often on the executive committee and frequently a state councillor. He served as President on at least two occasions when the biennial conferences were held in Brisbane in 1974 and 1986.

During the mid-1960s when he was the secretary of the ANZATB Board of Examiners, Eric played an important role in establishing the relevancy of Diploma-level examination in the local environment. Previously teachers in Australia and New Zealand were eligible to sit for an examination set by the United Kingdom College of Teachers of the Blind. Eric was responsible for having this accountability transferred to the Australian and New Zealand Board of Examiners. This group then developed the curriculum, set and marked the papers and awarded the diplomas. He encouraged the Narbethong School staff to further their professional knowledge by nominating for the examination.

Eric was willing to argue his point of view especially when it came to the ANZATB Constitution. There were often heated debates at the biennial conference – either at the general meeting or at the meeting of the councillors. Feathers were often ruffled as delegates from each state/country had a particular point of view depending on the organisational structure of their services. There was never any doubt where Eric stood on particular subjects. This was a particular point when it came to the matter of association membership – who was eligible to apply for membership and whether they should be admitted as a full or associate member.

At the international level, Eric was a member of the International Council of Educators of the Visually Handicapped (ICEVH), and served as world treasurer from1972-77. Eric attended the ICEVH conference in Boston during his first overseas trip. In addition to important role of Principal of Narbethong, Eric contributed to conferences and seminars. He was involved with the adult blind community and served on a range of committees at local, state and national levels, including the following:

- Member of the Queensland Branch of the Australian National Council of and for the Blind. Eric held the positons of President and Treasurer, served on the National Executive, and attended annual conferences.
- Member of the executive of Narbethong Welfare Committee.
- Involvement with the development of work programs at the Queensland Training and Placement Centre for the Blind.

As well as life membership for the above organisations, Eric received the following recognition:

1983 – Community Spirit Award from the Rotary Club of Brisbane: '**For devotion and dedication in assisting handicapped children beyond the normal call of duty**.'
1984 – One of the six finalists for Queenslander of the Year.
1988 – Eric Searle Bursary: As a tribute to his dedication, donations were given to establish an educational bursary in his name.
2002 – Member of the Order of Australia (OAM): '**For services to the development of special education resources, programs and facilities for people with vision impairment, and the establishment of support programmes for their families.'** Awarded posthumously

In conclusion, Eric's personal commitment to the provision of quality education programs for students in Queensland was a major focus of his professional life. Many of the educational services that are now available for students with vision impairment throughout Queensland are an outcome of his efforts and vision.

Footnote

When researching the history of Narbethong for its 50th anniversary, Eric's son donated some of his memorabilia. The material included a series of slides of early ANZATB conferences in Adelaide and Auckland, and the ICEVH conference in Boston, the outline for the 1986 Brisbane conference, and his thesis for the ANZATB Diploma entitled **The history of education of the blind in Queensland till 1963**. These items are now held in the Narbethong archives.

Heather Grainger
Queensland educator of students with vision impairment
and
SPEVI member, 1971-2000

Tribute - Elisabeth Jacoba Maria Wesseling (Lisette)

Contributed by Lisette's husband, Neil Jarvis (Source Dominion Post – New Zealand)

There is a saying that braille users are leaders in life. This proved to be true for Lisette Wesseling, a professional soprano, singing teacher and advocate for the blind. Lisette was born blind, lived a life without limits and never saw her blindness as a barrier to what she wanted to achieve in life. Lisette's successes were many, both personally and for the causes she championed. As well as forging her own successful career on the stage and as a recording artist, she helped other blind people access music education and performance. She combined her two great passions in life when she published a book on braille music that helped visually impaired people read music. She taught braille and singing, believing both to be talents that granted freedom of expression for the learner.

Lisette Wesseling worked part-time at The Blind Foundation (New Zealand), first as a braille teacher helping people understand new technology specifically for the blind, and later as a braille awareness consultant. She led the charge promoting braille into mainstream society, advocating for it to be used in official signage, on restaurant menus, in lifts and on various other public material. Lisette was instrumental in getting NZ Post to teach its 'elves' braille so that they might read and respond to blind children's letters to Santa.

Lisette Wesseling was featured on a CD of music for soprano, harp and alto trombone in 2009 and in 2013, she released her own solo CD, **Music In My Mouth**. She saw the arts as an essential part of life and something that should be accessible to everyone.

"Disabled people want to share in the beauty of this world and also help create beauty as artists," she once told **Arts Access Aotearoa**.

Lisette taught singing to children and adults for more than a decade. She saw her talent as a gift and teaching was a way she felt able to give back. She believed everyone who wanted to sing, whether they had a talent for it or not, deserved the chance to learn the art. Lisette once said Bach's music took her on a journey. "It's like you're on a magic carpet. I feel like I'm flying with it."

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.

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.

Australia Committee of Management, 2017-19

Carly Turnbull, President - Email: carly.turnbull.spevi@gmail.com

Pranitha Moodley**,** Vice-President - Email: Pranitha.Moodley@ridbc.org.au

Frances Gentle, Immediate Past President and Convening Editor, JSPEVI - Email: Frances.Gentle@ridbc.org.au

Galiema Gool, Secretary - Email: galima.gool@det.nsw.edu.au

David Rice, Treasurer - Email: davericesydney@gmail.com

Shane Doepel, Membership Secretary - Email: shane.doepel.spevi@gmail.com

Sue Silveira, Public Officer - Email: Sue.Silveira@ridbc.org.au

Phia Damsma, Access Coordinator, Web and List administrator - Email: phia@sonokids.com

Ben Clare, Co-Editor, SPEVI Facebook Page; and SPEVI Representative, International Council for Education of People with Visual Impairment - Email: bwclare@gmail.com

Brian Conway, SPEVI Representative, Round Table on Information Access for People with Print Disabilities - Email: Brian.Conway@RIDBC.org.au

Paul Pagliano, Executive Member – Email paul.pagliano@jcu.edu.au

New Zealand, 2017-19

Maria Stevens, President - Email: mstevens@blindfoundation.org.nz

Jude Shelley, Treasurer - Email: jude.shelley@blennz.school.nz

Jacqui Heywood, Secretary - Email: jacqui.heywood@blennz.school.nz

Karen Gilligan, Co-Editor, SPEVI Facebook Page - Email: Karen.Gilligan@Blennz.school.nz

For a list of SPEVI Councillors for the 2017-19 Biennium, please visit the SPEVI website, www.spevi.net