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Orientation and mobility intervention

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Abstract
Children with deaf blindness, visual and motor disabilities require learning to travel independently with or without using mobility devices. There are many mobility devices that can, when properly used, provide a child with the means for independent, safe, efficient travel. The most commonly recognized mobility device is the long white/red and white cane. Many other mobility devices are also available, including Electronic Travel Aids (ETAs). ETAs are portable devices that emit sonar or laser signals that are reflected to the user during travel, and are converted to auditory and/or tactile signals. The devices are hand held, or chest, head, wheelchair, or cane mounted, and usually serves to provide supplementary information during travel. Individuals using ETAs can learn to interpret information they receive from the device about obstacles that may be in their direct path, about "openings" in hallways, and about drop-offs or inclines in the travel surface. They may also be used to enhance trailing abilities. Mobility devices serve as an "extension" of the user's arm(s), hand(s), and fingers, and provide protection from obstacles while allowing access to needed information about the environment. Sometimes the environment in and around is required to be adapted and modified to allow a child to move more independently rather than just making things easier for him. Hence while adapting or changing the physical environment, ensure that changes are increasing the child's independence and will benefit all the children in Natural way.

Keywords: Electronic travel aids, mobility, devices, access, disability

Introduction
These terms are used as per the 2014 World Health Organisation (WHO) definitions, where impairment relates to “a problem in body function or structure”, and disability is “an umbrella term, covering impairments, activity limitations, and participation restrictions” In the context of this study, an eye condition is an impairment; and a disability is the effect an eye condition has on an individual’s ability to function in the social and physical world. This discussion begins therefore with clinical perspectives of vision loss, summarizing medical categorizations and clarifying terminology used throughout the study. The chapter then discusses attempts to understand and frame the concept of blindness as a disability through the use of theoretical models. Three dominant approaches are considered: the medical model, social models of the United Kingdom and United States, and the bio psychosocial approach of the WHO International Classification of Functioning, Disability and Health (ICF) (World Health Organisation, 2001) [3]. The use of language relating to blindness is considered, including common myths and stereotypes, and how these relate to issues of stigma and social identity relating to blindness and the use of the white cane.

The International Classification of Functioning, Disability and Health (ICF)
The International Classification of Functioning, Disability and Health (ICF) endorsed by the WHO in 2001 [3], provides a multi-perspective framework approach to the classification of impairment. Human functioning is defined at three levels: body; person; and person in society, with disability involving dysfunction at one or more of these levels and expressed in terms of “impairments, activity limitations and participation restrictions” (World Health Organisation, 2001 [3]. In order to contextualise these levels, the ICF takes into consideration environmental factors, or the “physical, social and attitudinal environment in which people live and conduct their lives” (p. 10). The framework attempts to synthesised medical and social perspectives and is designed for use across disciplines including education, medicine, research and policy-making. There is no single definition of disability within the framework; rather the ICF model recognizes that disability is positioned on a continuum of human health, and a universal experience that can affect all people.

United Nations, 2006

Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (United Nations, 2006, p. 7) [16].

Sensory Integration Therapy

Sensory Integration therapy is the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body effectively within the environment. Sensory integration disorders are central nervous system disorders characterized by imbalance among the primary sensations of sight, hearing, touch, taste, smell, vestibular or proprioception. There are several sensory integration activities which can be carried out in school (SSA, 2003). These activities help in increasing muscles tone, reducing muscles tone, balancing, improving writing skills etc. Sensory integration activities such as jumping while sitting on a therapy ball, spinning on a sit- and- spin, jumping on a mini trampoline and pushing down on the top of their heads with their hands help in increasing muscle tone. To reduce muscle tone, activities like slow rocking and rolling, balance activities, weight shifting activities, weight shifting in half-kneeling, shifting from side- sitting to kneeling with hands on hips, smooth, repetitive, alternating movements may be incorporated during free play sessions or any other outdoor activities. Some activities like animal walks such as crab walks, bear walks, duck walk, push-ups on the floor or against the wall, resistive exercises with elastic tubing, weight bearing on the upper limb, cleaning chalkboards and table tops help in bringing stability. Hand muscles can be improved through activities of prewriting, handwriting and manipulative activities on vertical surfaces, moving writing equipment from the palm to the fingers of the hand, rotating pencil from the writing to the erasing position etc.

Fig 1: Red & white folding cane for people with deaf blindness

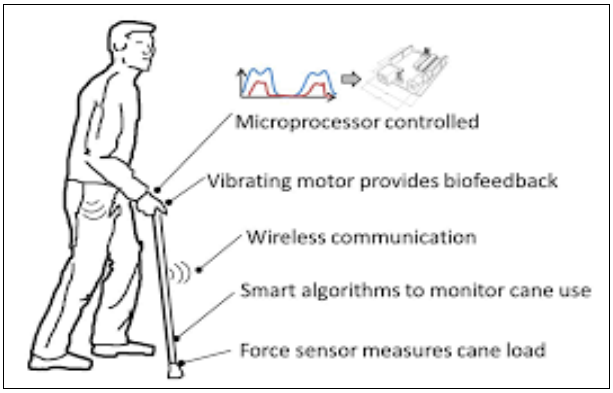

Fig 2: Smart cane

Fig 3: Using red & white smart cane

Intervention for Teaching Activities of Daily Living

Activities of daily living are "the basic activities we perform for self-care such as eating, bathing, dressing, grooming, personal hygiene, work, homemaking and leisure activities. Accessibility to reach the ADL activities in the school should be provided. Ramps and adaptive toilet facilities in the school should be made compulsory. Proper lighting facilities inside the premises should be provided and there should be a caregiver to provide service during the ADL activities.

Communication Intervention

Children with multiple disabilities face significant challenges in the development of communication skills. These difficulties arise due to the multiple associated conditions. They do not get any information or motivation from the environment around them due to which they tend to be less responsive than their non-disabled peers. As a result, people around them become less responsive.

These children also find it difficult to explore the environment physically and using their senses like vision, hearing etc. Thus, these children become passive and have very limited opportunities to initiate and imitate objects. We as teachers need to enhance the child's communication by adding to the modes or ways he /she communicates. This can be done by using objects, pictures, photographs, or symbols to support or supplement the child's communication. Teachers and parents can seek help from speech therapists in developing communication skills of the child. Most children with deaf blindness or multiple disabilities use different modes for receiving information and different ones for expressing information. Based on the situation modes may be used. However, it is important to remember that no single mode is more important than the other and its use depends entirely on the child's needs and situation.

The different modes of communication used in children with DB/MD are tangible symbols, for example, object cues, associated objects, pictures or photograph sand so on. Children with MD also need a calendar system to help them know about the different events and activities that are going to happen during the day, week or month. For these children, calendar is represented by placing objects or pictures for each of the activities in separate compartments or boxes. A calendar system helps the child to know what is going to happen next. Calendar box can be made of various materials such as wood, small plastic boxes, or shoe boxes attached to one another.

Alternate and Augmentative Communication (AAC)
Alternative and Augmentative Communication attempts to compensate for limited verbal communication skills by integrating symbols, devices, techniques, and strategies to enhance or encourage communication. Alternative and Augmentative communication includes "unaided modes" of communication, such as gestures, signs and facial expressions, or "aided modes" ranging from the low tech-such as drawings and tangible symbols-to the high tech-such as speech-synthesized devices and laptop computers.

Sign Language
Sign language is the most obvious choice of communicative skills that can aid communication and can be very effective in children with dual sensory disabilities. The person with deaf blindness uses tactile sign language to communicate. The person puts his or her hands over the signer's hands to feel the shape, movement and location of the signs. Some people with deaf blindness with restricted but usable vision (e.g., tunnel vision) may follow signs by holding the signer's forearm or wrist and using their eyes to follow the signs visually. This helps them follow the signs more easily. Usually people with blindness or visually impairment who lose their hearing later, or people with deafness or hard of hearing who are depended on their speech reading and do not know how to sign, prefer tactile finger spelling because sometimes sign language can be difficult to learn. The person with deaf blindness may prefer to put his or her hand over the finger speller's hand, or on the signer's palm, or cup his or her hand around the signer's hand. Similarly, people with deaf blindness with little or no usable vision to speech read another person by touch. They put their thumb on the other person's chin, and their fingers on the other person's cheek to feel the vibrations of the person's voice and the movement of their lips. For individuals with autism, the use of visual strategies and schedules has been an invaluable tool for developing communication and helping with understanding. Many individuals on the autism learn and understand more easily when things are presented visually, whether it is an object, photo or line drawing. These visuals can be actual representations or symbols, and can be presented as reminders or to help explain a task. Alternatively, a non-verbal individual can use them to communicate. The Picture Exchange Communication System (PECS) is a type of AAC technique with which individuals with autism learn to communicate using picture cards (Maanum, 2009). Fluent users of PECS can use several pictures to make easily understandable and grammatically correct sentences. PECS begins by teaching an individual to give a picture of a desired item to a "communicative partner", who immediately honors the exchange as a request. The system goes on to teach discrimination of pictures and how to put them together in sentences. Later, individuals are taught to answer questions and to comment.

Assistive Devices to Support Communication
A variety of assistive devices, which include low tech and high-tech devices, are used to help children with severe and multiple disabilities in the classroom. It is very important that the individual has a device that is most suited to them. There is no "one size fits all". Some low tech and no tech devices include signing and gestures, communication books like about me, picture dictionaries, daily and weekly schedules, picture boards, books with pictures, objects and/ or messages, alphabet board, communication boards etc.
High tech devices which include computers, head sticks and adaptive switches allow children with MD to communicate effectively with others. Some deaf-blind people use a Screen Braille Communicator (SBC). This is a small, portable device that enables them to communicate with sighted people. The device has a QWERTY keyboard with an LCD display on one side, and an eight-cell Braille display on the other side. The sighted person types short text on the QWERTY keyboard. The deaf-blind person reads the printed text by placing his or her fingers on the Braille display. He or she then uses the Braille display to type back text. The sighted person can read the text on the LCD display.
Teenage switch progressions allow children to press a switch to activate activity based instruction on the computer. Other types of assistive technology include speech synthesizers, speech generating devices, alternative keyboards, pointing systems, talking clocks and calculators, voice recognition software, reading machines, magnification software, phonic ear devices, telecommunication devices and sound magnification systems. In unit-7, such devices are discussed, which can be referred to, for detailed information about such devices.

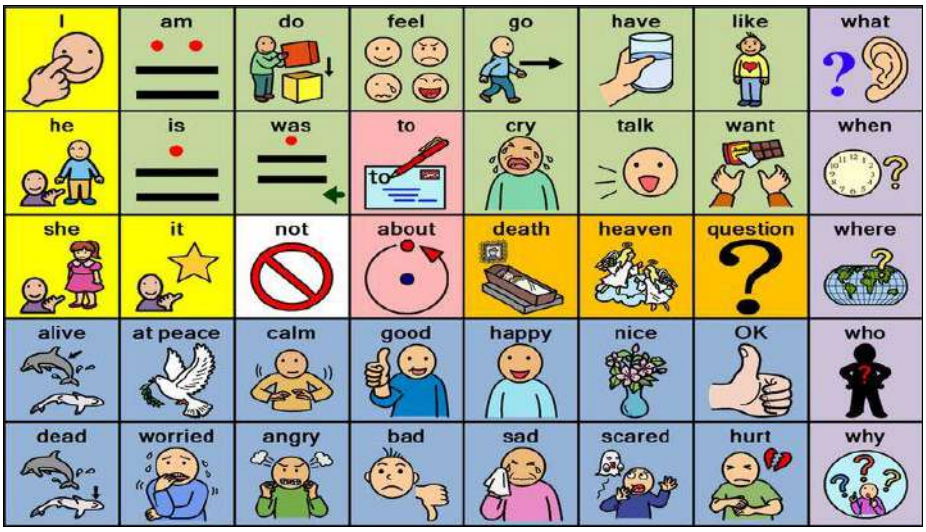

Fig 4: Picture communication board

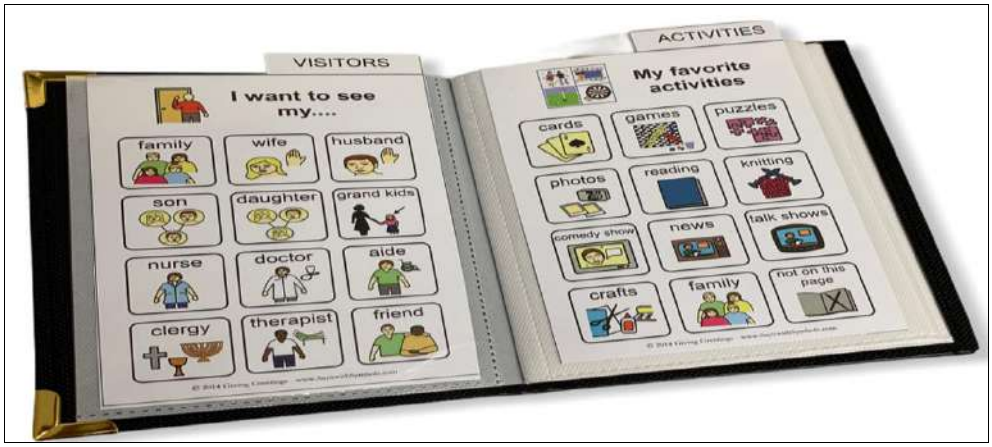

Fig 5: Communication book

Intervention for Social Skills Training

A social skill is any skill facilitating interaction and communication with others. Social rules and relations are created, communicated and changed in verbal and nonverbal ways. Interaction, socialization, sharing, use of resources and participation in play activities assist in developing social skills in children. Due to the various limitations as a result of combination of disabilities, children often get deprived of learning different social skills along with their family members, friends, neighbors and others in their community. Being a teacher, we need to create or modify the environment in such a way that children with multiple disabilities get ample opportunity to interact for their day-to-day needs.

Educational Intervention

Children with MD also have the right to education along with all other children. The school should have such resources and facilities where all children receive instruction that fits their individual skill levels and learning styles Teachers should work together with special educators to the benefit of all children, share their expertise in planning and implementing strategies and support. The curriculum can be adapted and modified as per the requirement of children. Alternative lessons, materials and activities can be tailored to individual needs and individual educational levels. The school can plan and implement individualized education programme (IEP), which is specifically designed to meet the learning needs of each child and may be integrated and transacted in the general classroom along with all other children. The child with MD studying in regular schools may require support services like therapeutic services, training in plus curricular areas, resource rooms services, special equipment, teaching learning materials, adapted curricular and adapted teaching strategies. Resource support could be given by the resource teachers and therapists working in resource centers. Wherever this option is not feasible, long term and short-term training of regular teachers is undertaken. Intensive in-service teacher education is necessary to sensitize regular teachers on effective classroom management of children with special needs

Conclusion

An Orientation and Mobility (O&M) Specialist provides training that is designed to develop or relearn the skills and concepts a blind or visually impaired person needs to travel safely and independently through his or her environment. O&M specialists provide services across the life span, teaching infants and children in preschool and school programs, as well as adults in a variety of community-based and rehabilitation settings. Although O&M specialists are primarily responsible for O&M training, their work may not always be done directly with the child. When the child is very young, for example, the O&M may provide consultation to the teacher of students with blindness or visual impairment, occupational therapists, physical therapists, early intervention specialists and the family. The objective of this research was to identify the appropriate content for an orientation and mobility (O&M) assessment for young children. It is necessary to have a reliable and valid assessment tool to evaluate whether young children are making adequate gains in response to early intervention efforts in O&M. Very little literature exists on the O&M needs of children aged birth to 6 years because of the roots in adult rehabilitation of the field of O&M. This article have also concluded that a large number of persons with disabilities are aware of orientation and mobility techniques and their use in Home, Schools and Neighbors.

References

1. World Health Organisation and the World Bank. World Report on Disability. 2011. Retrieved from http://who.int/disabilities/world_report/2011/factsheet.pdf
2. World Health Organisation. International Classification of Functioning, Disability & Health; Children & Youth Version (ICF-CY). Geneva, Switzerland: Author. 2007.
3. World Health Organisation. International classification of functioning, disability and health (ICF). Geneva, Switzerland: Author. 2001.
4. World Health Organisation. International classification of impairments, disabilities, and handicaps. Geneva, Switzerland: Author. 1980. Retrieved from http://whqlibdoc.who.int/publications/1980/9241541261_eng.pdf
5. Whitburn, B. The dissection of paraprofessional support in inclusive education: 'You're in mainstream with a chaperone'. Australian Journal of Special Education. 2013;37(2):147-161. doi:10.1017/jse.2013.12
6. Welsh RL. 100 years of professionalism in services for people who are blind or visually impaired. Journal of Visual Impairment & Blindness. 2006;100(9):517-522.
7. Westcott HL, Littleton KS. Exploring meaning in

interviews with children. In S. Greene & D. Hogan (Eds.), Researching children's experience: Methods and approaches. London: Sage, 2005, 141-157pp.
8. Wehmeyer M, Palmer S. Promoting the acquisition and development of self-determination in young children with disabilities. Early Education and Development. 2000;11(4):465-481.
9. Whitstock R, Franck L, Haneline R. Dog guides. In B. Blasch, W. R. Wiener, & R. L. Welsh (Eds.), Foundations of orientation and mobility. New York: American Foundation for the Blind. 1997;2:260-283.
10. Wells K. The missing link: A collaborative approach to early childhood orientation and mobility. International Journal of Orientation & Mobility. 2008;1(1):57-61.
11. Warren D. Blindness and early childhood development (Rev. 2nd ed.). New York: American Foundation for the Blind, 1984.
12. United States Department of Education. (n.d.). idea. Building the legacy. Part C (birth - 2 years old). Regulations: Early intervention program for infants and toddlers with disabilities. 2004. Retrieved from http://idea.ed.gov/part-c/regulations/1
13. United Nations Human Rights. Convention on the Rights of the Child. 1990. Retrieved from http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx
14. United Nations Human Rights. Declaration on the Rights of Disabled Persons. New York: United Nations. 1975. Retrieved from http://www.ohchr.org/EN/ProfessionalInterest/Pages/RightsOfDisabledPersons.aspx
15. United Nations Human Rights. Declaration on the Rights of Mentally Retarded Persons. New York: United Nations. 1971. Retrieved from http://www.ohchr.org/EN/ProfessionalInterest/Pages/RightsOfMentallyRetardedPersons. aspx
16. United Nations. Convention on the Rights of Persons with Disabilities. New York: United Nations. 2006. Retrieved from http://www.un.org/disabilities/convention/conventionfull.shtml
17. UNICEF. Convention on the Rights of the Child fact sheet: The right to participate. 2014. Retrieved from http://www.unicef.org/crc/index_30228.html
18. UNESCO. Convention against Discrimination in Education. Paris: United Nations. 1960. Retrieved from http://portal.unesco.org/en/ev.phpURL_ID=12949&URL_DO=DO_TOPIC&URL_SECTION=201.html
19. Strain P, McConnell S, Carta J, Fowler S, Niesworth J, Wolery M. Behaviorism in early intervention. Topics in Early Childhood Special Education. 1992;92(1):121-142.
20. Vaughan CE. Origins of conflicting professional and consumer images of blindness. The Journal of Rehabilitation. 1993a;59(1):10-17.
21. UPIAS. Fundamental principles of disability. London: Union of the Physically Impaired Against Segregation and the Disability Alliance. 1975. Retrieved from http://disability-studies.leeds.ac.uk/files/library/UPIAS-fundamental-principles.pdf
22. Sauerburger D, Bourquin E. Teaching the use of a long cane step by step: Suggestions for progressive, methodical instruction. Journal of Visual Impairment & Blindness. 2010;104(4):203-214.
23. Sauerburger D. Safety awareness for crossing streets with no traffic control. Journal of Visual Impairment and Blindness. 1995;89(5):423-431.
24. Scott B. Orientation and mobility in the Australian education system: A challenge for professionals. Journal of the South Pacific Educators in Vision Impairment. 2009;4(1):30-33.
25. Ravenscroft J. Visual impairment and mainstream education: Beyond mere awareness raising. In L. Peer & G. Reid (Eds.), Special educational needs: A guide for inclusive practice. London: SAGE Publications Ltd, 2012, 196-210pp.
26. Odom SL, Horn EM, Marquart JM, Hanson MJ, Wolfberg P, Beckman P, *et al*. On the forms of inclusion: Organizational context and individualized service models. Journal of Early Intervention. 1999;22(3):185-199. doi:10.1177/105381519902200301
27. Morsley K, Spencer C, Baybutt K. Two techniques for encouraging movement and exploration in the visually impaired child. British Journal of Visual Impairment. 1991;9(3):75-78. doi:10.1177/026461969100900303
28. International Council of Ophthalmology. Visual standards: Assessment and rehabilitation of vision-related functioning. (Draft of a Report prepared for presentation at the World Ophthalmology Congress, Hong Kong, 2008 and the International Council of Ophthalmology and the Vision-2008 conference, Montreal, 2007-2008. Retrieved from http://www.icoph.org/resources/12/Assessment-and-Rehabilitation-of-FunctionalVision.html
29. International Council of Ophthalmology. Visual standards: Aspects and ranges of vision loss with emphasis on population surveys. (Report prepared for the International Council of Ophthalmology at the 29th International Congress of Ophthalmology, Sydney, Australia). 2002, April. Retrieved from http://www.icoph.org/downloads/visualstandardsreport.pdf
30. Hill EW, Ponder P. Orientation and mobility techniques: A guide for the practitioner. New York: American Foundation for the Blind. 1976.
31. Goddard JA, Lehr R, Lapadat JC. Parents of children with disabilities: Telling a different story. Canadian Journal of Counselling. 2000;(34):273-289.
32. Goffman E. Stigma: Notes on the management of spoiled identity. [Kindle edition]. 1963. Retrieved from http://www.amazon.com
33. Goffman E. The interaction order: American Sociological Association, 1982 Presidential Address. American Sociological Review. 1983;48(1):1-17. Retrieved from http://www.jstor.org/stable/2095141.
34. Goggin G. Disability, media, and the politics of vulnerability. Asia Pacific Media Educator, 19(June 2008 July, 2009, 1-13. Retrieved from http://ro.uow.edu.au/apme/vol1/iss19/2/
35. Goggin G, Newell C. Disability in Australia: Exposing a social apartheid. Sydney, Australia: University of New South Wales Press. 2005.
36. http://www.tsbvi.edu/distance/communication/images/calendars/time-piece/ daily-1181-web.jpg
37. http://aadb.org/images/stories/factsheet/communications/ screen_braille_lg.jpg
38. http://www.tsbvi.edu/distance/communication/imagesU

nit-4.pdf
39. https://www.academia.edu/9914274/The_knowledge_about_orientation_and_mobility_on_the_movement_of_the_persons_with_visual_impairment
40. https://visionaware.org/everyday-living/essential-skills/an-introduction-to-orientation-and-mobility-skills/
41. https://digscholarship.unco.edu/cgi/viewcontent.cgi?article=1597&context=dissertations
42. https://journals.sagepub.com/doi/abs/10.1177/02646196211019066
43. https://www.jstor.org/stable/1492647
44. https://www.nationaldb.org/info-center/orientation-and-mobility-factsheet/