Prevalence of Deafblindness

Prevalence of Deafblindness must be understood within the context of the complexity of this impairment. There are those born Deafblind; there are those born blind/with low vision acquiring hearing loss later, and those born Deaf/with hearing loss acquiring visual impairment later.

The Census 2011 shed the following light for the age group 6-18 years:

<table>
<thead>
<tr>
<th>Province</th>
<th>Some difficulty</th>
<th>A lot of difficulty</th>
<th>Cannot do at all</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Western Cape</td>
<td>3 093</td>
<td>87,5</td>
<td>216</td>
<td>6,1</td>
</tr>
<tr>
<td>Eastern Cape</td>
<td>6 663</td>
<td>80,0</td>
<td>522</td>
<td>6,3</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>920</td>
<td>88,4</td>
<td>85</td>
<td>8,2</td>
</tr>
<tr>
<td>Free State</td>
<td>3 911</td>
<td>88,7</td>
<td>415</td>
<td>9,4</td>
</tr>
<tr>
<td>Kwa-Zulu Natal</td>
<td>12 318</td>
<td>74,3</td>
<td>1 216</td>
<td>7,3</td>
</tr>
<tr>
<td>North West</td>
<td>3 566</td>
<td>89,5</td>
<td>316</td>
<td>7,9</td>
</tr>
<tr>
<td>Gauteng</td>
<td>8047</td>
<td>89,2</td>
<td>636</td>
<td>7,0</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>3 822</td>
<td>86,9</td>
<td>429</td>
<td>9,8</td>
</tr>
<tr>
<td>Limpopo</td>
<td>3 896</td>
<td>86,7</td>
<td>298</td>
<td>6,6</td>
</tr>
<tr>
<td>South Africa</td>
<td>46 236</td>
<td></td>
<td>4 134</td>
<td></td>
</tr>
</tbody>
</table>

A total of 5,426 persons indicated that they could not hear or see at all.
A total of 4,134 persons indicated that they experienced a lot of difficulty seeing as well as hearing.
A total of 46,236 persons indicated that they experienced some difficulty with seeing as well as hearing, making up a potential larger number of persons who will become Deafblind as they age.

Promoting, Protecting and Upholding the Rights of Deafblind Children

Children who are Deafblind from birth are often either misdiagnosed with severe and/or profound intellectual disability, or never diagnosed at all, remaining at home, deprived of their right to development, education, freedom of expression and association.

Deafblind children are however not a homogeneous group, and depending on their race, gender, socio-economic status of the household, whether they live in a suburb, village or farming area, and services...
available at community level, the risk of compounded marginalisation, exclusion and discrimination escalates.

Deafblind children’s rights to development, education, a decent standard of living, freedom of expression and association, as well as the right to self-determination through decision-making, can be realised if they:

- First and foremost have informed and empowered parents who understand their children’s rights; their impairment; the services needed and where and how to access these;
- Are valued for who they are and the contribution they can make to humanity and their communities;
- Remain an integral part of their families, who have access to community-based family support services, as well as financial support to compensate for the disability-related expenses the family incur;
- Access early childhood intervention which focuses on assisting them to experience the normal developmental milestones every other child goes through, albeit it in a different way;
- Access augmentative and alternative communication support, including tactile sign language training for the family, from birth;
- Are enrolled in an appropriate early childhood development programme where they can learn to socialize with other children whilst at the same time receiving their individualized training;
- Attend school and have access to all the reasonable accommodation support measures required to enable them to access the curriculum and participate in the learning process;
- Are protected from unsafe environments which could cause physical or emotional harm;

Deafblind Children, Education and Technology

History of Deafblind Education Internationally

The history of the education of Deafblind people is very short viewed in a historical perspective. Although we know that many visually impaired people are also hearing impaired and many hearing impaired are also visually impaired, the histories of the education of blind people and that of Deaf people seem to have emerged and developed relatively independent of each other. Later the education of Deafblind people came into existence in either institutions for blind people or in institutions for Deaf people.

Education of Deafblind Learners in South Africa

Deafblind learners have traditionally been under-counted in the education system as they are either classified as blind/visually impaired or as Deaf/hard of hearing. The Education Management Information System (EMIS) of the Department of Basic Education for example in February 2015 recorded only 32 Deafblind learners for the entire country. These 32 learners exclude for example the 10 Deafblind learners enrolled in Sibonile School for the Visually Impaired, as the system doesn’t provide for a Deafblind category.

In practice, this means that

- Deafblind learners are often refused enrolment as they do not fit into either schools for Deaf learners or schools for learners with visual impairment;
- Educators at schools for blind/visually impaired learners are excluded from South African Sign Language training and/or tactile sign language training;
- Educators at schools for Deaf learners are excluded from Braille/low vision and/or tactile sign language training

The newly approved Screening, Identification, Assessment and Support (SIAS) policy guidelines of the Department of Basic Education will eradicate the challenge to a large extent, by ensuring that comprehensive support services are made available to learners with high support needs.

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The Use of Augmentative and Alternative Communication (AAC) and Assistive Technology

Most individuals are not completely devoid of either sense, retaining a degree of hearing and/or visual capacity, and this has a bearing on the type of education used. Deaf students who have residual vision can take advantage of interpreters and large print texts. Teachers should ensure that there is enough lighting in the classroom, and no glare. Some students also require extra time allotted to do written exams or assignments, since limited vision means they cannot read at the same pace as their peers.

On the other hand, blind students with leftover hearing can benefit from microphones and listening devices that allows the teacher’s voice to be enhanced, volunteer readers to aid them in learning the data in their textbooks, and volunteer note takers that can type up notes in Braille during or after class for the student to use later on. Teachers of blind students with residual hearing should speak clearly, face the class while doing so, and refrain from moving around the classroom too much. Students without either residual sight or hearing will need more support, since they may have troubles learning the basics on the same schedule as their peers. It is important to keep on mind at all times that these students learn from what they do and not from what they hear or see, obviously.

Source: www.deafblindinfo.org

Learning within natural environments is critical for children with Deafblindness, from cooking in the kitchen to shopping at the local grocery store, planting flowers in the greenhouse, working in a cafeteria, or learning about cause and effect concepts in computer class. Activities are structured to meet the individual student’s language and communication needs and incorporate the curriculum content into the activity.

Source: https://nationaldb.org/library/list/42

Modern technology has provided opportunities for students who are deafblind to access the general curriculum. Assistive technology devices that were created for individuals with visual impairments (especially those with braille output) can be utilized by students who are deafblind. These include:

**Computer adaptations:**
- Braille translation software: converts print into Braille and Braille into print
- Braille printer: connects to a computer and embosses Braille on paper
- Screen reader: converts text on a computer screen to audible speech
- Screen enlargement software: increases the size of text and images on a computer screen
- Refreshable Braille display: converts text on computer to Braille by an output device connect to the computer

**Adaptive devices:**
- Braille notetakers: lightweight electronic note-taking device that can be connected to a printer or a Braille embosser to produce a printed copy
- Optical character reader: converts printed text into files that can be translated into audible speech or Braille
- Electronic braillewriter: produces Braille, translates Braille into text or synthetic speech

**Telecommunication Devices:**
In order for individuals who are deafblind to communicate using the telephone, they may use a telecommunication device for the deaf (TDD) that includes braille output. A TDD is a small keyboard with a display and modem. To use the TDD the individual must relay information to an operator. Text messaging has recently become a very useful avenue for individuals with hearing impairments to relay messages without using the TDD.

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additional practice in using language to explain and make predictions such as, "Why didn't the brick house fall down?" or "What will happen if you don't take a nap?"

The child with hearing impairment would probably have an experiential base about animals before he began to study the unit on farm animals. He might have a pet at home, has probably seen birds and squirrels in his yard, or has watched animal stories on television. He will understand stories about farm animals if it is signed and he can see the pictures. He might play with plastic farm animals and farm figures in the sandbox. He might colour pictures of farm animals in the Art Center and sort zoo and farm animal figures in the Science Center. At recess he could pretend to be a horse that pulls a wagon outside. During auditory training he might try to discriminate between the sound a pig and a cow makes or point to the appropriate picture of each animal in the Old MacDonald song. Speech or speechreading might focus around the names of farm animals. At the end of the week his class may visit a working farm which would build on his week-long study of farm animals.

The Child with Visual Impairment

Some of the same instruction strategies could be used with the child who has a visual impairment. However, his learning will take place primarily through his own actions/experiences and information he receives auditorily. He can learn many things through group instruction with minimal support. Unlike the child with hearing impairment, this child will need more instruction that occurs through real experience. Imaginary play may be difficult for him, reducing the effectiveness of role play as an instructional tool. Language instruction for this child should be paired with ongoing activities. The use of pictures and print would be of limited value.

Using the example of a unit on farm animals, the child with visual impairments would likely have less knowledge of animals to begin with than the child who is deaf. He would not have seen the television programs or watched animals playing in his yard. He might have a pet and perhaps has some knowledge about caring for an animal. This unit may be most meaningful for him if the visit to the farm was scheduled before beginning classroom instruction.

Although he might be able to sort the animals in the Science Center using visual cues of color and shape, he may or may not relate them to the real animals. A more appropriate activity might be telling a classmate or teacher whether the animal lives in the zoo or on the farm after they name the animal or make the animal sound. Then he could put the animal in the proper area. Instead of coloring animal pictures he might use modeling clay to make an animal figure or scraps of fur to make tactile pictures. He could interact with other children in the wagon while working on the concepts of "left", "right", "fast", "slow", "stop" and "go" pretending to drive the horse. These concepts might be taught and practiced individually within orientation and mobility training. New textures can be introduced at the sandtable. Working on listening skills during story time may also be somewhat effective, especially after the child visited the farm. He could be encouraged to explore his environment to search out the sound of a mooing cow.

The Child with Deafblindness

The child with Deafblindness requires considerable modifications to teaching content and different teaching strategies. He cannot learn from what he sees like the deaf child does. He can not learn from listening like the blind child does. He learns only by what he does. This means that no learning is taking place for him while waiting for others to take their turn. For this reason small group or individual instruction becomes more critical. Large group instruction is only valuable if he can be consistently active (e.g. playground activities).

This child also may have problems experiencing new things. Encountering the world without benefit of vision and hearing requires a great deal of trust. Bonding with the child is critical for the instructor, therefore it is important to evaluate the child's response to an individual when determining who will be the primary provider of instruction. He may be withdrawn or passive, content to stay in one place and let the world come to him. Remember for him he will learn only through doing.
Things often magically appear and disappear before him. Cause and effect are elusive. People do things to him but not necessarily with him. There is little explanation of events before they occur. For this reason it is important to make interactions balanced (my turn, your turn) to encourage him to be responsive. Instruction that is always directive requires no response from him.

Safety is also of critical importance to this child. Not only must the environment be made safe for him, but he must feel safe in order to move around on his own. If he does not, he is likely to stay glued to one spot resisting interaction with his environment and the people in it. Instruction and support from an orientation and mobility specialist is very important. She may need to help staff evaluate the environment for hazards and develop travel routes for the child to use. She may work directly with him to orient him to that environment, and provide training on travel techniques and travel equipment.

The curriculum focus for the child with Deafblindness will differ from that of the child with only a single sensory impairment. The deaf education focus may be primarily on using language to code existing concepts. The curriculum focus for a child with visual impairment may be more oriented toward building concepts and experiences which can provide a firm cognitive foundation for language. The curriculum focus for a child with Deafblindness should be on bonding and developing interactions and routines for expanding the frequency and functions of communication. This child will not learn about objects or actions incidentally. He cannot tie together the fragmented input he receives without interpretation and instruction from others. He must be taught to use and accept this instruction.

Developing a communication foundation for learning is a priority. Typically communication is tactile in nature using signals, objects, gestures and later on sign language or tactile symbols or some combination of forms. Language is developed through the use of routines, calendar systems, discussion boxes, etc. Because of the degree of vision impairment and his inexperience with real events in the world, the use of print, pictures, and demonstration will be of little or no value to this child. He may not understand pretend or role-play as an event that relates to some real experience. The child with Deafblindness may first need to be moved co-actively through an activity to know what is expected of him. After he understands what is expected, this support would be faded to avoid building prompt dependence.

Because concepts develop so slowly for this child, there should be a focus on making learning functional. Great care needs to be given to developing clear goals and objectives for this child. Typically these objectives need to be limited in number since this child will need many opportunities to practice skills before he is able to generalize the concept to other situations.

This child would have a very limited knowledge of animals because he can not observe them or hear them. He has not seen television shows about animals. He may have a pet at home, but might only encounter it if the pet is placed in his lap or brought to him. His experience with that animal would be primarily tactile. He may not be able to distinguish his long-hair cat from his long-hair dog if he only pets the animal. Or he may experience the animal as a thing that licks or smells a certain way.

For this reason vocabulary (concepts) which are taught should be more broad in nature. Careful consideration should be given to concepts which can be applied to other units throughout the year and across a variety of settings. For example, the farm animal unit might focus on action concepts such as feed, pat, rub, pull, walk, open, close, pour. These same concepts should be applied to other units or in different environments. For example, "pull the leaf", "pull the wagon", "pull the drawer", "pull off the lid" and so forth. This child may have a "pull" unit throughout the year that is embedded in the various units the other students will study. If this child has a pet at home, another approach to instruction could focus on things this child can learn to do with his pet. For example, he might learn to feed his pet, walk it, pet it, brush it, etc. Units could be developed around things that can be fed, walked, brushed, etc.

The child with Deafblindness could meaningfully participate in the play centers but his goals would be different from the other children. For example, while the other children pretend to be animals, the child could "rub" or "pat" them as if he was the farmer they come to for attention. In the Art Center he could "pat" and "pull" modeling clay to help a classmate form an animal shape. At recess he could direct the

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other children to "pull" him in the wagon or practice pulling them with help from a classmate. The teacher for the hearing impaired or other staff could help him to learn to vocalize to get the other children's attention before he signs "stop" or "go". In the Science Center he could use his vision to find objects in the sandbox. Then he could "open" and "close" the door to the toy barn, "pour" sand on the toy animals, "pull" the shovel out of the sand, etc.

When he visits the farm with the other children he would experience the differing size, textures and smells of the animals, but his goal might be to use his cane or sighted-guide technique in unfamiliar environments. If field trips are regular events, he might also learn a field trip routine. Unless he actually lives on a farm, learning about the animals and what they do will be of little value to him even though it may be a very pleasurable event.

Obviously this child will require a great deal of individual support. Initially this may need to be provided by the teaching staff. However, if good interaction and communication skills are modelled for the other students and an effort is made to draw them into successful play situations together, they may be able to provide instructional support for some activities.

Conclusion

The educational needs of a child with Deafblindness are unique. Teachers without specific training in the area of Deafblindness may be unable to appropriately program to meet these needs without specialized training and support. Few school districts have even one teacher with this kind of specialized knowledge. In addressing the child's education from birth - 21 a large number of teachers and support staff as well as community members and human service staff must work with the child. However, if his unique learning style is not addressed, the child with Deafblindness is at risk for being excluded from the classroom, the family and the community.

This article originally appeared in the January 1995 edition of P. S. NEWS!!! published by the Texas School for the Blind & Visually Impaired Deafblind Project.

Communication Methods Deafblind Persons use

Go to https://www.youtube.com/results?search_query=deafblind+communication for videos on communication methods persons who are Deafblind use

Tactile Sign Language

**Hand over hand signs:** feeling the hand movements of the person signing.

**Short-cut signs:** tactile fingerspelling supplemented by some signs which are made in the palm of the hand.

**Co-active signs:** making the signs with the person. This is the natural sign language of the Deaf community which can be read by people who are deafblind, using the hand over hand method.

**Tracking:** holding the signer's wrist(s) to feel the movement or to keep the signs within visual range.

**Visual Frame or Close Vision Sign:** signs are made within a small area in front of the upper chest and within close visual range of the person.
Tactile fingerspelling: Fingerspelling received on the palm.

Braille: This is a written form of communication based on an oral language. A system of embossed dots are read with the fingertips. A braille system can also be used on the hands, using 3 fingers on each hand to represent the six dots of braille.

Tadoma: This is a tactile method of reading speech by placing the thumb on the speaker’s lips and the other fingers on the speaker’s neck.

Technical devices: Such as hearing aids, cochlear implants, FM –systems, vibrator systems, large print and braille output computers, Telebraille.

Object-symbols: use of real objects to represent activities, e.g. a spoon could represent lunch.

Physical cues and gestures: e.g. shoulder shrug, pointing, thumbs up.

Communication boards or books: pointing to pictures, symbols, words or objects to communicate.

Source: [http://www.aadb.org/factsheets/db_communications.html](http://www.aadb.org/factsheets/db_communications.html)

For more disability videos: [https://www.dropbox.com/sh/j3brn2knl0uo19e/AACSPUHUWWJuBfejC-RtZe72_a?dl=0](https://www.dropbox.com/sh/j3brn2knl0uo19e/AACSPUHUWWJuBfejC-RtZe72_a?dl=0)
The new South Africa should be accessible and open to everyone. We must see that we remove the obstacles… Only then will the rights of disabled persons to equal opportunities become a reality. - Nelson Rolihlahla Mandela, 1995

The world has a population of approximately 7 billion people – which means a staggering 1 billion people live with a disability. The most prevalent disability is visual impairment: totalling 314 million people (of which 45 million are completely blind). On top of that 90% of the world’s visually impaired population live in low-income settings. This is very worrying because people who are visually impaired are three times more likely to be unemployed.

BeSpecular is a South African tech startup that’s driven to enable visually impaired, blind & deafblind people to lead more independent lives. Through a community of sighted volunteers who have the BeSpecular app, visually impaired users can take a photo of an object or situation and ask for assistance. The BeSpecular app is a convenient and fun way for sighted people to do a good deed in a truly meaningful way. For visually impaired users, BeSpecular is a quick and easy-to-use tool to help get through hurdles during the day.

Since launching their free BeSpecular app on iOS and Android in July, the BeSpecular community has grown exponentially. The app is currently used by sighted volunteers and visually impaired users around the world and has spread across 37 countries to date. Thousands of visually impaired, blind and deafblind people have been assisted thanks to the BeSpecular app and its volunteers.

The next stage for BeSpecular is to equip corporates with a software as a service version of BeSpecular. BeSpecular for Business enables employers to create a community within their companies that is inclusive of their visually impaired, blind and deafblind employees. Corporates offering their impaired employees the BeSpecular tool are not only helping their existing employees, but also making it more favourable for unemployed visually impaired people to enter the workforce through the on-site support structure.

About the CEO: Stephanie is a young female entrepreneur in South Africa who’s passionate about technology & improving the world in which we live. Stephanie focuses on accessible technology & being a global disability advocate with an emphasis on the visually impaired, blind and deafblind communities.

For more information, go to https://www.bespecular.com/

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