Teaching Pupils who are Deaf/Hard of Hearing and Pupils who are Blind / Visually Impaired

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9th March 2018
NCSE Support Service

- NBSS
- SESS

Support for Schools

- Visiting Teacher Service
- SENO
- NEPS DETBI DDETBI
Teaching Students who are Blind / Visually Impaired

Mary Harrison
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9th March 2018
Visiting Teachers for Students who are Blind / Visually Impaired

An overview of

- Visual Impairment
- Impact on learning
- Teaching Strategies
- Technology
The Visiting Teacher
For Children and Young People Who Are Blind/Visually Impaired (VTVI)

- Established by the Department of Education nearly 50 years ago.

The VTVIs support
- Children with visual impairment
- Their families
- Their schools

- The Visiting Teachers now form part of the NCSE Support Service
VTVI: Referral Procedure

- Referrals are based on **Ophthalmology reports.** The criteria for inclusion on the caseload is:
  
  * < 6/18 distance vision in the better eye,
  * A reduced field of vision,
  * A deteriorating eye condition.
  * See NCSE website for complete list of criteria.

- Anyone can refer to the service.

- Ophthalmologist reports **must** accompany a referral.

- Parental permission **must** be obtained prior to inclusion on the caseload.
Impact of visual impairment – Images of a toy – in focus and out of focus
The braille code - Image

The braille cell consists of 6 dots

1 4
2 5
3 6

The six keys on the braille writer correspond with the six dots

line spacer 3 2 1 space 4 5 6 backspace
Visual Impairment - the impact

- Vision is the integrating sense
- 75% of learning is visual
- Loss of incidental learning
- Security
- Social interactions
- Mobility
- Time
- Energy
Impact of VI on babies and young children

- Vision is the Co-ordinating sense
- Residual vision
- Support understanding of child’s development
- Developmental Journal
- Assessment and visual stimulation program
The Early Years

Family concerns
- Grief
- Understanding
- Fears

VT Role
- Home Visits
- Building a relationship
- Listening
- Communicating
Areas of development

- Social and Emotional
- Communication and language
- Play and learning
- Movement and mobility
- Independent self-care
Resources

- Early Support Developmental Journal
- Oregon Project for Visually impaired
- Child’s toys/books
- iPad apps
## Using hands

<table>
<thead>
<tr>
<th>Developmental goal</th>
<th>Card</th>
<th>Possibly</th>
<th>Definitely</th>
<th>What my child does and enjoys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovering hands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding and grasping feet with hands</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clapping hands together</td>
<td>4</td>
<td></td>
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<tr>
<td>Exploring</td>
<td></td>
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<tr>
<td>Bringing toys to mouth for exploration</td>
<td></td>
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</tr>
<tr>
<td>Exploring actively the shape of toys etc</td>
<td>3/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manipulating toys eg by banging, shaking, turning them around in their hands</td>
<td>3/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using both hands to explore object</td>
<td>3/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-ordinating hands and fingers – grasping object</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holding toy in hand grasp for longer</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Holding a larger toy or own bottle with both hands</td>
<td>3/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transferring object from one hand to the other</td>
<td>3/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picking up smaller toy with whole hand (centre of hand and fingers around it)</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Putting both hands out to reach an object</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A Case Study

- Diagnosis of albinism
- 6/60 visual acuity
- Some sensory regulation difficulties
- No learning difficulties
Preschool

**Difficulty**
- Getting to know peers
- Posture at desk
- Games in yard
- Sensory regulation

**VT input**
- Observation and advice
- Games for circle time
- Tilted reading stand
- Further referrals
Practical strategies

- Work and play close to the child
- Time- allow time to explore
- Teachers Radio voice
- Use residual vision
- A good visual environment
Transition to primary school

- Getting to know peers
- Access to Distant information and Incidental information
- Seeing print letters
- Fatigue
- Sensory regulation
- The Yard
- Feeling different
Standardised tests
Functional Vision

- What can a child see in the classroom?
- What can the child see outdoors?
- What factors affect his vision?
- What learning tasks are expected of him?
Functional Vision

- Optimal font size
- Compensatory skills
- Assistive technology
- Advocacy skills
Teaching Strategies

- Teachers voice
- Physical environment
- Reduce visual and auditory clutter
- Aids and Technology
Font sizes

- This is a sample of N24 Arial font

- This is a sample of N24 Arial font BOLD

- This is a sample of N36 Arial font
Mum went to the shop with the children. She told the man about the key and how Kipper had lost it. She asked if they could have the key back. ‘Yes,’ said the man. ‘If you can find it.’
Portable magnifier - Image

![Portable magnifier image](image-url)
Tilted reading stand - Image
As you keep flying south, the landscape changes. You pass dark green forests. Later you see rolling grasslands and dry deserts. Tundra, forests, grasslands, and deserts make up Earth’s main land zones. Scientists call these
Continuum of support

- The student with visual impairment can underperform because of fatigue, difficulty in accessing information
- Classroom support-
- School support-
- School Support Plus
Continuum of support

Children with a visual impairment or blindness are supported:
• Through the Continuum Of Support.
• By class and SETs.

VTVI has a role in:
• designing programmes - adapted print or Braille format as appropriate.
• linking with the SETs and other staff to assist with preparation of education support plans.

The student with visual impairment can underperform because of fatigue, difficulty in accessing information.
Image of a reading ruler and Fingerprints
Transition to secondary - new challenges

- Moving to different classrooms
- Different teaching styles
- New subjects, new vocabulary, new spellings
- Increased volume of reading and writing - increased fatigue
- Identity and self-esteem
Image of a Connect 12
How you can help XXX to learn

• **Say** what is going to be covered at beginning of class

• If writing on board, **say** clearly what is being written, spelling out new words

• **Describe** pictures

• **Name** children who are asked question

• Give **time** for taking down homework
Teaching strategies

- Teachers Voice
- Alternatives to note taking from board
- Differentiation
- Technology
- Self advocacy
- Peer support
Touch screen laptop/tablet
Other eye conditions

- Congenitally blind
- Progressive eye conditions
- Late onset visual loss
- Multiple Disability and Visual Impairment (MDVI)
Student beginning braille
Learning Through Touch

- Approximately 100 brailleists out of 1300 on VT caseload
- Pre-braille and pre-reading skills
- Motor skills
- Braille code
- Reading and writing
- Technology
- Auditory skills
Braille Sense U2 Notetaker
Teaching Students who are Deaf / Hard of Hearing

Maree Farrell
ILSA

9th March 2018
Visiting Teachers for the Deaf / Hard of Hearing

- Children with moderate, severe or profound hearing loss bilaterally, using hearing aids or other amplification
- Service from diagnosis to end of education
- Pre school service (in home)
- Primary school support
- Second level interventions
- Third level
- Interface with other professionals
Normal Hearing

Sound is transmitted as sound waves that are gathered by the outer ear and sent down the ear canal to the eardrum. The sound waves cause the eardrum to vibrate which sets the three tiny bones in the middle ear in motion. The motion of these bones causes fluid in the inner ear or cochlea to move. The movement of the inner ear fluid causes the tiny hair cells in the cochlea to bend. The hair cells change this movement into electrical impulses. These electrical impulses are transmitted to the hearing (auditory) nerve and up to the brain where they are interpreted as sound.
How the Ear Works

Outer and Middle Ear

- Ear Drum
- Bones of the Middle Ear
AUDIOGRAM OF FAMILIAR SOUNDS

FREQUENCY IN CYCLES PER SECOND (HZ)

HEARING LEVEL (dB HL)
The Audiogram
High Frequency Loss

--e -u- I- --I-I--
Th- s-n –s sh-n-ng
Place a cross in the square
Ay-e –o- in –e- air
Trace/place/make/Take/lay
Dot/spot/lot/cross/got
Pair/hair/where/stair/square/chair
The Types and Causes of Hearing Loss

- Conductive
- Sensory Neural
- Mixed
Sensory Neural Loss

Occurs when there is a problem in the inner ear or with the neural pathway that carries sound to the brain. This type of loss is permanent and more severe than other types of loss. This type of loss can generally be helped with a hearing aid or a cochlear implant, but these devices do not restore normal hearing. Persons using these devices often need auditory training.

Causes

- Diseases during pregnancy
- Heredity
- Childhood diseases (mumps, measles, chicken pox)
- Viral infections (meningitis, encephalitis)
- Prolonged high fever
- Physical damage to head or ear
- Exposure to excessive or intense noise (loud music, gunfire, etc.)
Conductive Loss

Occurs when there is a problem in the outer or middle ear. This type of loss can usually be reduced or eliminated through medical and/or surgical treatment. It must be remembered, however, that in young children periods of congestion caused by middle ear infections can result in delays in language and speech acquisition.

Causes

- infections that fill the middle ear with fluid
- ruptured ear drum
- interference (such as a build-up of ear wax)
- deformity in the ear structures
- damage caused by a foreign object (i.e. a pencil, stick, hairpin, bean)
- missing or occluded (obstructed) ear canal
- allergies
Types of Amplification

- Hearing aids - behind the ear, in the ear
- Personal FM Systems (radio aids)
- Sound field Systems
- Cochlear Implant
Options available

Hearing Aids

Behind-the-ear

In-the-Ear

In-the-Canal
Hearing with a Cochlear Implant

Sensory neural hearing loss is where the tiny hair cells in the cochlea are damaged and electrical impulses cannot reach the hearing nerve. Cochlear implants bypass the damaged hair cells by providing electrical stimulation directly to the hearing nerve fibres.

1. Sound is received by the microphone.
2. It is coded/processed into digital signals, which are sent to the transmitter coil.
3. The transmitter coil sends the signals across the skin to the implant (receiver/stimulator) where it is converted to electronic signals.
4. Signals are sent to the electrode array to stimulate the hearing nerve fibres in the cochlea.
5. Signals are sent via the hearing nerve to the brain where they are recognized as sounds.

www.cochlear.com
Overview of work of a VT Deaf/HOH

- Earlier diagnosis of Deafness as a result of newborn hearing screening (2013).
- 3-4 children per 1000 have some degree of hearing loss at school entry.
- Over 95% of Deaf children born to hearing families
- Up to 40% have additional needs
- Over 95% of Deaf/HH children attend mainstream school and are supported by the VT service
- Up to 5000 Deaf/HH children on VT caseloads
- >200 Deaf children in special schools / special classes
Visiting Teacher (VT) support provided to:

- All children diagnosed with any degree of hearing loss, whose parents wish to avail of the service.
- Children with unilateral, mild, (both on request), bilateral, moderate, severe and profound hearing loss (active caseload)
- The families of babies and young children have VT service delivered in the family home.
- Pre-schools, playschools and crèches where young deaf children attend.
- All primary schools, secondary schools and special schools where deaf children are enrolled.
VT work with babies and parents
VT work with babies and parents

Challenges
- Grief
- Anger
- Denial
- Understanding of hearing loss
- Fears
- Will my child go to the local school?

VT input
- Listening
- Build relationships
- Support language development (sign and/or spoken)
- Model communication & play strategies
- Use of hearing aid, cochlear implant, BAHA
- Informed choice of the parents based on all available options

Hearing loss simulation
- https://www.youtube.com/watch?v=Va1wrnsMve0
VT work with pre-school children and parents

Challenges
- Getting to know peers
- Feeling different
- Communication
- Language development
- Social and emotional development
- Incidental learning
- The yard/play

VT input
- Building relationships
- On-going parental support and advice
- 1:1 input where relevant
- ISL
- Staff training & advice
- Monitoring progress and development
- Transition planning
- Applications to AIM for AT
- Use of AT
- AIM / HSE/Audiology/CI
Moving Into Formal Education
Working with Class Teachers and Special Education Teachers (SET)

Children who are Deaf/HOH are supported:
• through the Continuum Of Support
• By class and/or SETs

VTHI has a role in:
• linking with the SETs and other staff to assist with preparation of education support plans
• Focus on communication skills, language acquisition and development, social and emotional development
VT work with in-school children and parents

- Environmental assessment
- Classroom Acoustics
- Preferential seating
- Teaching and Learning
- Communication
- Language acquisition and development
- Social and emotional development
- Use of AT
- The yard/play
VT work with in-school children

**Challenges**
- Peer relationships
- Feeling different
- Communication
- Language acquisition and development
- Social and emotional development
- Use of AT
- The yard / play
- Particular challenges at Post-Primary

**VT input**
- Staff training and advice
- Building relationships
- Observations / modelling
- On-going parental support and advice
- 1:1 input where relevant
- AT: Applications and use
- Monitoring progress and development - assessment
- Educational planning
- Transition planning
- ISL / SEC(RACE) / DARE
- HSE (Audiology)/Cochlear I (Beaumont)
Assistive technology - FM Systems
Teacher’s voice is enhanced and remains constant wherever the teacher stands in class.
An audio demonstration

- listen to a hearing aid alone and then with an FM system….
- *Play demo*
- Which sound would you prefer?
Issues to watch out for in students with severe and profound loss

- “Literal” language
- Language gaps
- Incorrect use of grammar, incorrect tenses, omissions
- Vocabulary deficits
- Poor inferential comprehension
- Poor writing standard
Primary and secondary support

- All necessary amplification e.g. sound field system or personal FM system
- A student with a moderate or greater hearing loss bilaterally (in both ears) is entitled to 4 resource teaching hours weekly
- Visiting Teacher must make recommendation re support and provide relevant documentation to SENO.
Possible Exam Considerations for students with at least moderate loss in both ears

- Personal stereo in exam centre
- Separate exam centre
- Combined aural/oral exam
- Exemption from aural exam
- Reader
- Grammar and spelling concession
Classroom Issues

- Acoustics
- Background Noise
- Speaker / Listener distance
- Reverberation
- Acoustic treatments
Practical Ideas

- Modify speech if necessary
- Note Positioning
- Reduce Background noise
- Help pupils who need to see you
- Manage group conversations
- Give clear instructions

- Check understanding
- Differentiate curriculum
- Pre teaching
- Post tutoring
- In class support
We cannot tell if someone has a hearing loss or not. It is invisible.

Thank You