

Sensory and/or Physical Needs - Lecture 5, Part 1

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Sensory Impairment Support – Note as many
aids for deaf & blind children that you see



Outline of Introduction to Sensory and/or Physical Needs

- Definitions of Sensory and/or Physical Needs
- **Types of Sensory Impairments**
- Hearing Impairment
- Visual Impairment
- **Types of Physical Needs**
- Cerebral Palsy
- Dyspraxia/Developmental Coordination Disorder
- Chronic and Severe Illness
- Debates and Controversies

Definitions of Sensory and/or Physical Needs

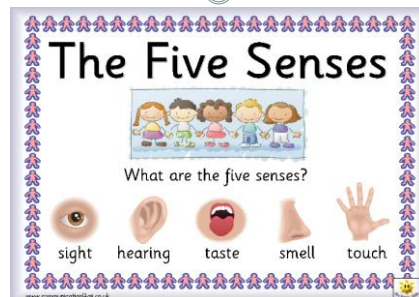
- Children with Sensory and/or Physical Needs have significant visual, hearing or physical disabilities which prevent them accessing the curriculum and learning like other children
- Two types: sensory and physical problems
- Cause: congenital (hereditary, environmental) or acquired
- Why are Sensory and/or Physical Needs a Special Educational Need?



Types of Sensory Impairments

- Sensory: linked to senses
- Visual Impairments (VI)
- Hearing Impairments (HI)
- Gustatory Impairments (GI)
- Olfactory Impairments (OI)
- Tactile Impairments (TI)

Recap on Types of Sensory Impairments



Hearing Impairment

- Two features of sound: level/volume and frequency
- Features of hearing loss: unilateral or bilateral
- Prevalence: approximately 20% of children will experience some hearing loss during the first 2-3 years of school (Bamford and Saunders, 1991)
- Permanent Hearing Loss: 1.65-2.05/1,000 (<40dB)
- Types of Hearing Loss/Causes: 1) Conductive 2) Sensori-neural 3) Mixed 4) Central/Cortical Loss
- Additional problems: 1) tinnitus 2) vertigo 3) vision

Causes and Types of Hearing Loss



Visual Impairment

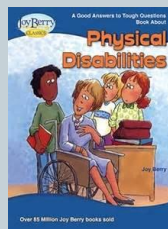
- Caveat: is 'seeing' the same as consciousness?
- Attitudes towards blindness: fear, awe, concealment & danger (blind corner), ignorance (blind prejudice)
- Prevalence: 10-20 per 10,000 (moderate visual impairment), 5.9 per 10,000 (severe visual impairment)
- Forms: malformation or malfunction of eye, optic nerve or the visual system within the cerebral cortex
- Causes: genetic, diseases, malnutrition & injury
- Problems: blurred vision, gaps in visual field, colour blindness, short/long sightedness light sensitivity, visual processing of visual information in brain

Causes of Blindness and Low Vision

Causes of Blindness & Low Vision

Types of Physical Impairments

- Physical Disability: usually life long, changing needs, significant impacts on motor movement
- Cerebral Palsy
- Dyspraxia
- Chronic and Severe Illness



Cerebral Palsy



- Cerebral Palsy: central motor dysfunction affecting muscle tone, posture and movement. It is caused by a permanent, non-progressive defect or lesion of the immature brain.
- Cause: exposure to radiation, infection, asphyxia before birth, hypoxia of the brain, birth trauma during labour and delivery, complications during birth or childhood
- Risk factors: multiple births and pre-maturity
- Prognosis: no known cure for cerebral palsy
- Epidemiology: 2.2-4.4 births per 1,000 in Western world



Dyspraxia



- Dyspraxia: a specific learning difficulty involving marked impairment in locomotion, fine and gross motor skills, coordination and planning
- Evidence: clumsiness, delayed walking, crawling, sitting, lace tying, doing buttons, speech etc. and assembling puzzles, building models and playing ball.
- Cause: not thought to be due to any damage to the brain but a problem with the development of certain neurones in the brain. Lifelong condition.
- Gender: males: female = 4:1
- Prognosis: Affects 5-10% of children (to some extent).



Chronic & Severe Illness



- SEN: 1) prevents attendance 2) medical conditions that interfere with concentration & learning
- Example: Sickle cell disease is a hereditary disease
- Symptoms: low blood cell count (leading to shortness of breath, fatigue and delayed growth), repeat infections and pain (when sickle-shaped red blood cells get caught in blood vessels)
- Vulnerable: ancestors from Africa, Mediterranean
- Most common inherited blood disorder in the US
Cause: mutations in the HBB gene

Debates & Controversies – Barriers to Inclusion for People with Sensory/Physical Disabilities

- Disability: is the sensory or physical need the only barrier to inclusion in society? What other barriers might prevent inclusion of children with sensory and/or physical disabilities in Kenyan society?

Sensory and/or Physical Need – Assessment - Lecture 5, Part 2

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Outline of Assessment of Sensory and Physical Needs

- Tests & Measures used to assess hearing impairment
- Tests & Measures used to assess visual impairment
- Tests & Measures used to assess physical needs

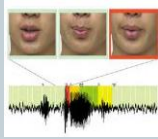
Assessing a hearing impairment

- Hearing Test: provided by an audiologist or medical doctor
- Early Intervention is vital: new born hearing tests are often provided after birth
- Two main types of assessment:
1) examining of the ear with an auroscope and 2) testing hearing using an audiometry test



Signs of a Hearing Impairment – Part II

- 1) slow to react to instructions, watches lips/others for help
- 2) has delayed language (e.g. immature syntax, vocabulary)
- 3) problems speaking, listening, reading, writing, spelling
- 4) constantly asks for repetition of what they have said



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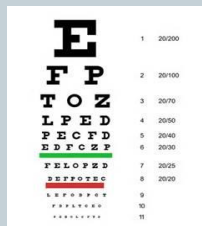
Signs of a Hearing Impairment – Part II

- 5) hears sometimes and not others e.g. right side v's left side
- 6) misinterprets information, makes inappropriate comments
- 7) is unable to locate a speaker or the source of a sound
- 8) sometimes shouts without realising they are being noisy
- 9) seems to have colds, coughs and ear-aches frequently



Assessing a visual impairment

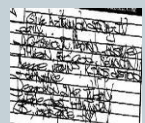
- Vision Test: carried out by an optometrist or medical doctor
- Snellen Eye Chart: measures loss of vision tested at distance of 6 metres (20 feet). 6/6 = 1.75mm detail at 6 metres away
- Normal vision: 6/6 - 6/18, Low <6/18, Blind <3/60



Snellen Chart

Signs of a Visual Impairment

- 1) clouding in the eyes, frequent swollen sore or inflamed eyes, erratic eye movement, eye rubbing
- 2) poor eye-hand coordination e.g. throwing/catching
- 3) gross motor problems e.g. climbing the stairs
- 4) squints/strains when examining something visual
- 5) copies from a neighbour rather than from the board
- 6) presents untidy written work, with writing not on the line and poorly spaced



Tests & Measures used to assess physical need

- Caveat: physical impairment does not automatically mean a child has a special educational need. Why?
- Social Model of Disability: disability results from the interaction between individuals & their environments



Tests & Measures used to assess physical need

- Medical Assessments: genetic testing, blood screens, clinical examination, specialist/consultant diagnosis
- Occupational/Physiotherapy Assessments: norm-references tests of locomotion, fine & gross motor skills, co-ordination, manual dexterity etc. e.g. The Movement Assessment Battery for Children (Henderson & Sugden, 1992)



Movement ABC

Debates and Controversies –Classroom Assistance
Helping Visually and Hearing Impaired Children

- Should classroom assistants be used to assist hearing and visually impaired children in the classroom setting?



Sensory and/or Physical Need–
Intervention - Lecture 5, Part 3

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Interventions to Assist Children with Sensory
and/or Physical Needs

- Interventions used to assist children with hearing impairment
- Interventions used to assist children with visual impairment
- Interventions used to assist children with physical needs



Interventions used to assist children with hearing
impairment

- Three main ways to help children with hearing loss
- 1) Environmental: Create better acoustic conditions e.g. place the child near the front, place the child close to the teacher, have a quiet class, remove curtains, carpets & soft furnishings, one person speaks at a time, use visual aids, notes & diagrams



Interventions used to assist children with hearing
impairment

- 2) Hearing aids: e.g. radio mike with transmitter worn by teacher and receiver and hearing aid used by the child
- 3) Cochlear implants: newest form of hearing aid for profoundly deaf




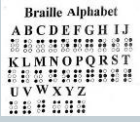
Interventions used to assist children with visual
impairment

- Twin focus: 1) Safety 2) Access
- Bold, contrasting colours & brightly coloured switches
- Low noise level, verbal prompts & cues, tidy classroom
- White stick and trained guide dog can help mobility
- Placed near teacher and door, away from direct sunlight



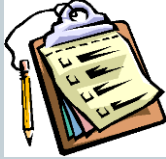


Interventions used to assist children with visual impairment

- Magnifying equipment e.g. magnified photocopies, magnifying lens, ICT
- Colour overlays placed over print material to reduce glare
- Sloping desk tops can bring material closer to eye level.
- Text: enlarged print books, high print density, Braille materials
- Use of information communication technology e.g. laptop
- Rest breaks

Interventions used to assist children with physical needs



- Removal of access barriers through: 1) structured teaching 2) appropriate support 3) ethos of inclusion

Structured Teaching Appropriate Support Ethos of Inclusion


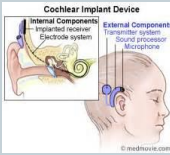
Interventions used to assist children with physical needs

- Preparing a child to access the environment e.g. teaching effective pain management
- Accessibility Plan: legal duty of schools/centres to meet the needs of children with disabilities
- Involvement of disabled voices in structural planning e.g. planning a school trip with a disabled pupil
- Educate adults and children

Debates and Controversies: Cochlear Implants

- Cochlear Implants
- Pros: improvements in hearing, speech perception & production.
- Pros: Significant improvements in core attainments and greater use of mainstream school provision
- Concerns: results highly variable
- Concerns: false hopes given to parents/children
- Concerns: medical/deficit model of deafness

Case Study: Deaf Children in Kenya – CISCO Networking Academy Programme & DeafAid

