



## TYPES OF DISABILITY AS PER RIGHTS OF PERSONS WITH DISABILITIES ACT, 2016: A THEORETICAL PERSPECTIVE

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### Abstract:

Education is an essential part of modern, civilized, advanced and developed society and its progress can never be completed and multidimensional, today when we talk about education, the shape of inclusive education comes to the fore. Due to which normal and disabled get education by sitting at the same table in a school together. Without inclusive education, the education of disabled cannot be given in full and real shape. In the 21<sup>st</sup> century, the Rights of Persons with Disabilities Act, 2016 came into force, which led to the development of a new consciousness among disabled (Divyangjan, 2021). Under which making disabled aware, bringing disabled into the mainstream of society through inclusive education, use of educational technology, barrier free environment, categorizing the existing 7 to 21 types of disability and increasing many services operates.

**Keywords:** Rights of Persons with Disabilities Act, 2016; types of disabilities

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## 1. Introduction

A Disability Rights Act was enacted to give effect to the United Nations Convention on the Rights of Persons with Disabilities in India. The purpose of this Act is to amend more strengthen the persons with disability and exercise rights of Central Government. Circumstances of disability can create barriers to education in the learner's learning process. Awareness of the latest developments can increase teacher planning by improving the learner's learning process and reducing the barriers in learning. Disability can have a direct impact on learning, whereas disability hinders or limits a learner's ability to learn. These effects can vary depending on the nature of the disability and its severity. Education strategies and programs are identified as being affected by disability. However, regardless of any disability or difficulty, students can still learn best, where learning styles are identified through systematic assessment and appropriate teaching methods.

## 2. Rights of Persons with Disabilities Act, 2016

The Disabilities Rights Act 2016 (RPwD) The Bill was passed on December 14, 2016, in Rajya Sabha and later in Lok Sabha on 16 December 2016. The Bill was re-adopted and signed by the Honorable President before the end of the year. and 'notified' by the Government in its official Gazette on December 28, 2016. Therefore, the RPwD Bill 2016 was 'enacted' and became the 'ACT', the Disability Rights Act of 2016 in India ([https://en.wikipedia.org/wiki/Rights\\_of\\_Persons\\_with\\_Disabilities\\_Act,\\_2016](https://en.wikipedia.org/wiki/Rights_of_Persons_with_Disabilities_Act,_2016)).

The RPwD Act, 2016 provides that *"good government will ensure that people with disabilities enjoy the right to equality, a dignified life, and the equal respect for others. It describes people with disabilities as any person with a long-term physical, mental, psychological, or emotional disability that when combined with barriers prevents effective and equitable growth in society"*. In addition, it also defines a "Disabled Person on a Bench" as a person with less than 4% of specified disabilities. Government will take steps to exercise the power of a person with a disability by providing appropriate accommodation.

In addition to covering the 21 categories of disability in the last 7 sections under the 1995 Act, the new Act fully enshrines your rights - the right to equality and opportunity, the right to inheritance and property, the right to privacy and family and the right to reproduction among others. Unlike the 1995 Act, the new Act speaks of accessibility - it sets a two-year deadline for government to ensure that people with disabilities have unrestricted access to infrastructure and transport systems. In addition, it will also hold private companies accountable.

This includes government institutions that are 'recognized' by the government as universities and privately owned colleges. The thing that breaks the law in this new Act is the increase in bookings in the public service from 3% to 4%. ([https://en.wikipedia.org/wiki/Rights\\_of\\_Persons\\_with\\_Disabilities\\_Act,\\_2016](https://en.wikipedia.org/wiki/Rights_of_Persons_with_Disabilities_Act,_2016)).

### 3. Persons with disabilities

People with disabilities are not seen as “objects” of assistance, treatment and social protection; rather than being "privileged" ministers, who are able to claim those rights and make decisions about their lives based on their free and informed consent and active community members. Disabled person means a person with a long-term physical, mental, mental or emotional disability that, when met with obstacles, hinders his or her full and effective participation in society on an equal basis with others (<https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>).

They are agents and beneficiaries of development and the importance of their role in life in general, progress and social diversity are equally allowed at the highest level. To achieve this, people with disabilities and their organizations must be included in all aspects of this process, including planning, designing, monitoring, evaluation and follow-up processes. The inclusion and participation of people with disabilities and the organizations they represent at all stages of implementation is important, not only to ensure that they are not left behind, but also because they are the only true professionals when it comes to their full inclusion in society (United Nations, 2021).

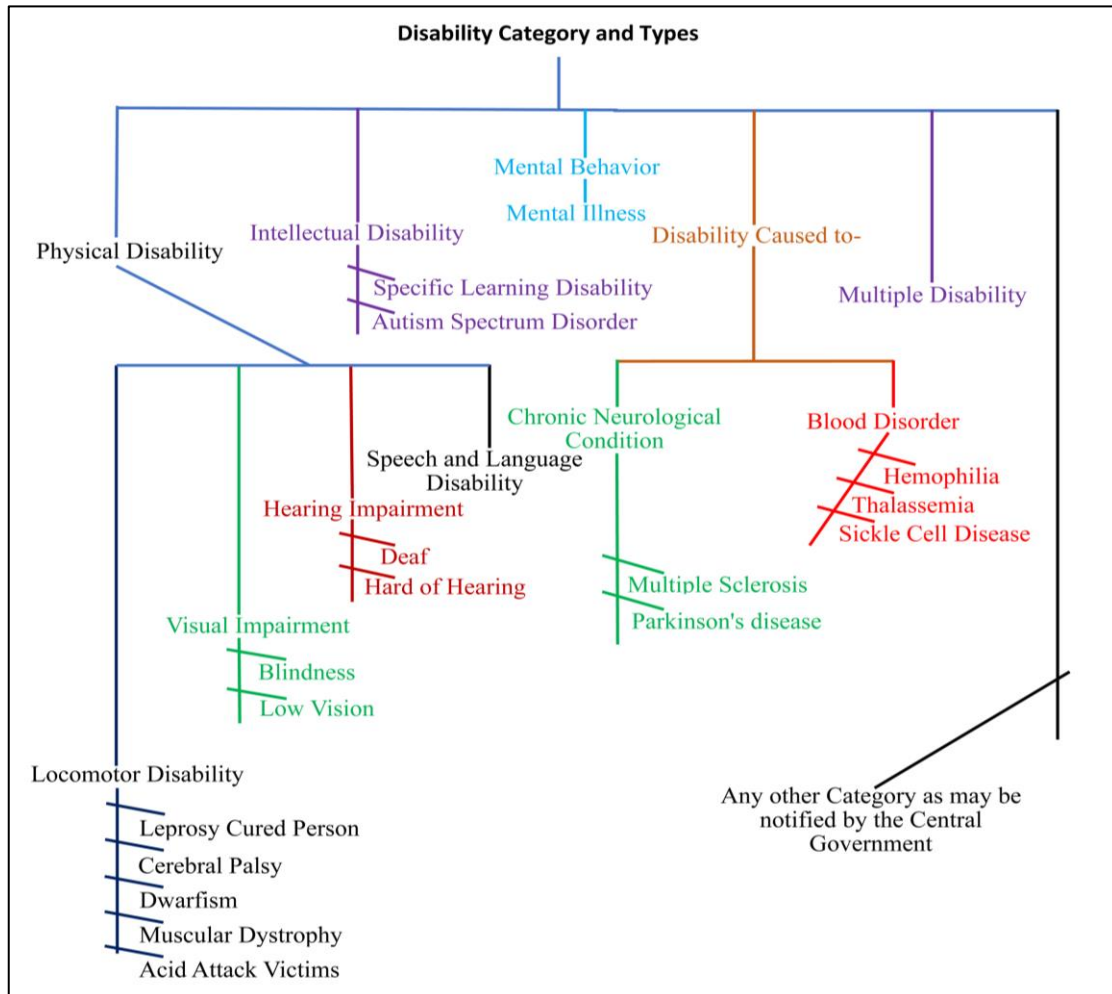
Through consultation and collaboration with people with disabilities, governments will receive technical assistance, capacity building and data access, which are essential for achieving inclusion and realizing the great goal of never leaving anyone behind. Bringing people with disabilities into the open for common development talks will not only benefit us, it will let the world know that there are immutable opportunities to transform the world into a better place for all (Rights of Persons with Disabilities Act, 2016 - Wikipedia, 2021).

### 4. Impact of Rights of Persons with Disabilities Act, 2016

- The disability percentage will now increase several times.
- The burden on the education sector will increase, with a child with a bench disability from the age of 6-18 entitled to a free education at a neighboring school or special school.
- The Rehabilitation Council of India (RCI) now has a major challenge in developing a variety of training programs to meet the needs of so many people as defined in the Rowdy Act 2016.
- Except as contained in the Rights of Children to Free and Compulsory Education Act, 2009, every child with a disability between the ages of six and eighteen will be entitled to a free education at a neighboring school, or special school, of his or her choice.
- The relevant government and local authorities must ensure that every child with a limited disability has access to free basic education until the age of eighteen.

- All public higher education institutions and other tertiary institutions that receive government assistance will provide seats for not less than 5% of persons with disabilities. People with moderate disabilities will be given the opportunity to be granted a further five years of admission to tertiary institutions (Rights of Persons with Disabilities Act, 2016 - Wikipedia, 2021).

## 5. Types of disabilities



### 5.1 Locomotor disabilities

Locomotor disability means a person's inability to execute distinctive activities associated with movement of self and objects resulting from affliction of musculoskeletal or nervous system or both (Vikaspedia, 2021)

#### 5.1.1 Implications

- Restricting travel to explore and learn from their environment can be challenging,
- Speech can be impaired,
- It can be difficult to use ordinary chairs / tables in the classroom / lab,
- Difficulty in completing tasks / tests on time,

- The frustration of the experience when you talk to someone for a long time,
- It requires additional time, support for compatible assistive technology and release to address course needs,
- The student needs special furniture or means of transportation,
- It is difficult to use common writing tools such as holding a pen to write for longer,
- Tasks that involve the use of hands such as turning the pages, writing and taking books out of the bag can be difficult and therefore need to be adjusted accordingly,
- Challenges with the installation, extraction and processing of information when applying assignments, tests. (<https://www2.unb.ca/alc/modules/physical-disabilities/implications-for-learning.html>)

## 5.2 Leprosy cured persons

A leprosy cured person is an individual who has been cured of leprosy but suffers:

- loss of sensation in hands/feet, loss of sensation and paresis in eye and eye-lids but with no deformity,
- manifest deformity and paresis, but has sufficient mobility in hands /feet to enable engagement of normal (economic) functions,
- extreme physical deformity, as well as advanced age which prevents him / her from gainful occupation/expression "leprosy cured" shall be construed accordingly (Vikaspedia, 2021).

## 5.3 Types

- Paucibacillary/tuberculoid: Mild, less severe form of leprosy.
- Multibacillary/lepomatous: More severe form of the disease.

### 5.3.1 Characteristics

- Severe pain,
- Loss of fingers and toes,
- Eye problems, leading to blindness,
- Enlarged nerves around the elbow/knee,
- Symmetrical skin rash commonly found,
- on face/ear/wrist/elbow/knees/buttocks,
- Thinning of eyebrow and eyelash,
- Laryngitis,
- Growth on skin,
- Numbness in hand/arm/feet/leg,
- Nose bleeding/stuffy nose,
- Lesions on body that are not as sensitive to touch/heat/pain,
- Skin lesions lighter than person's skin color,
- Lesions that do not heal fast,
- Ulcers on feet soles,
- Thick, stiff or dry skin,

- Muscle weakness or paralysis (especially in hands/feet) <https://www.cdc.gov/leprosy/symptoms/index.html>

## 5.4 Cerebral palsy

Cerebral palsy means a group of non-progressive neurological condition affecting body movements and muscle coordination, caused by damage to one or more specific areas of the brain, usually occurring before, during or shortly after birth (<https://www.cerebralpalsy.org/about-cerebral-palsy/definition>).

### 5.4.1 Types of cerebral palsy

It is divided into 4 types as in figure below:

- Spastic: muscle stiffness / rigid body movements are slow / awkward position of head triggers position of whole body,
- Athetoid: involuntary movements slow, wriggly movements often repetitive/rhythmic/ sudden irregular/large jerky poor balance constant change in muscle tone,
- Ataxia: difficulty in balance / coordination has 'drunken' gait muscle tone low,
- Mixed: it is a combination of any two types of cerebral palsy (usually spastic and athetoid type),

Cerebral palsy is a group of chronic conditions that affect movement and muscle contraction. It is caused by injury to one or more areas of the brain, usually occurring during the child's development: before or at birth. Injury or misalignment of certain areas of the brain affects the brain's ability to adequately control movement and posture.

Brain refers to "brain" and "disability" of muscle weakness / poor control. Cerebral Palsy itself does not develop (i.e., brain damage is not so bad); but secondary conditions, such as muscle stiffness, can develop into better, worse, or worse over time ([https://www.physio-pedia.com/Classification\\_of\\_Cerebral\\_Palsy](https://www.physio-pedia.com/Classification_of_Cerebral_Palsy)).

## 5.5 Dwarfism

Dwarfism means a medical or genetic condition resulting in an adult height of 4 feet 10 inches (147 centimeters) or less (<https://en.wikipedia.org/wiki/Dwarfism>).

### 5.5.1 Characteristics

- Large head with prominent forehead,
- Flattened bridge of nose,
- Protruding jaw,
- Crowded and mis-aligned teeth,
- Forward curvature of the lower spine,
- Bowed legs,
- Flat/short/broad feet,
- Double-jointedness,
- Cleft palate,

- Severe osteoarthritis in hips,
- Weak hands and feet,
- Barrel - chested appearance,
- Deformed hands and feet,
- Limited range of motion,
- Ears with cauliflower appearance (<https://www.webmd.com/children/dwarfism-causes-treatments>).

### 5.5.2 Types of Dwarfism

- Proportionate Dwarfism: body parts are in proportion but shortened.
- Disproportionate Dwarfism: average-size torso and shorter arms and legs/ shortened trunk with longer limbs (<https://www.webmd.com/children/dwarfism-causes-treatments>)

## 5.6 Muscular dystrophy

Muscular dystrophy means a group of hereditary genetic muscle disease that weakens the muscles that move the human body and persons with multiple dystrophies have incorrect and missing information in their genes, which prevents them from making the proteins they need for healthy muscles. It is characterized by progressive skeletal muscle weakness, defects in muscle proteins, and the death of muscle cells and tissue:

- Weakness begins in the upper legs and pelvis,
- Fall frequently,
- Have trouble rising from lying /sitting position,
- Gower's sign is observed,
- Waddle when walking,
- Have difficulty running and jumping,
- Walk on toes,
- Muscle pain and stiffness,
- Have calf muscles that appear large because of fat accumulation (<https://www.medicalnewstoday.com/articles/187618>)

## 5.7 Acid attack victims

An acid attack victim is a person disfigured due to violent assaults by throwing of acid or similar corrosive substance ([https://en.wikipedia.org/wiki/Acid\\_attack](https://en.wikipedia.org/wiki/Acid_attack))

### 5.7.1 Characteristics

- Lips, eyelids and skull are partly destroyed / deformed with hair lost,
- Ear cartilage is usually partly or totally destroyed; deafness may occur,
- The nose can become shrunken and deformed; the nostrils may close off completely,
- The chin, neck and mouth become shrunken and lose,
- Eating/speaking can become difficult,

- Permanent scarring of the face and body,
- Respiratory problems,
- Social/psychological/economic difficulties (<http://www.safecity.in/acid-attack-a-devious-act/>).

## 5.8 Visual impairments

Visual impairment, when present from birth, will have more impact on learning than visual impairment that is acquired later in life. Some may have low or distorted vision while others may have no vision at all (<https://kidshealth.org/en/teens/visual-impairment.html>).

Children with visual impairment are usually auditory learners. They also learn through touch and by practically doing a task. Type of assistance required for learning, will vary according to the degree and nature of their impairment (<https://www.intechopen.com/chapters/63646>).

### 5.8.1 Implications

- It is difficult to learn when reading long passages and visual inputs,
- Taking more time to translate meaning such as reading in Braille mode, requires more time and involves a higher level of memorization and cohesion from perfect phrases, sentences, etc.,
- Difficulty understanding oral content, including words and concepts, such as - length, height, body language, etc.,
- Description of drawings and visuals such as reading maps, graphs, diagrams, diagrams, inscriptions, symbols and excellent construction,
- Bad for environmental awareness - land, climate, flora and fauna, resource allocation and services,
- Bad for developing local concepts and understanding the relationship between local concepts,
- Misunderstandings of three-dimensional objects are transformed into two sides,
- It is difficult to understand the special letters (symbols) used in Mathematics,
- Difficult audio recording of mathematical text, e.g., statistics, formulas etc.,
- Difficulty writing and reading mathematical texts in Braille due to spatial planning and color codes,
- Difficulty in learning “Nemeth” or any other “Mathematical Braille Code”,
- Difficulty in understanding complex concepts,
- Difficulty in understanding scientific tests, especially in Chemistry,
- Need more time to do academic activities (<https://nfb.org/images/nfb/publications/jbir/jbir19/jbir090101.html>).



## 5.8.2 Types of visual impairments

There are two types:

### 5.8.2.1 Blindness

Blindness means is a condition where person has any of the following conditions, after best correction:

- Total absence of sight; or
- Visual acuity less than 3/60 or less than 10/200 (Snellen) in the better eye with best possible correction; or
- Limitation in field of vision subtending an angle of less than 10 degree ([https://www.medindia.net/health\\_statistics/general/visualimpairment.asp](https://www.medindia.net/health_statistics/general/visualimpairment.asp))

### 5.8.2.2 Low vision

Low vision is a disorder where a person has any of the following conditions:

- Visual acuity not exceeding 6/18 / less than 20/60 up to 3/60 /up to 10/200 (Snellen) in the better eye with best possible corrections,
- Limitation in field of vision subtending an angle of less than 40 degree up to 10 degrees ([https://www.medindia.net/health\\_statistics/general/visualimpairment.asp](https://www.medindia.net/health_statistics/general/visualimpairment.asp))

## 5.8.3 Characteristics

- Generally, has the same academic ability as their peers,
- Tends to perform poorly in mathematics,
- Appears clumsy, especially in new situation,
- Holds head in awkward position/holds objects in peculiar position to look at them,
- Constantly asks neighbor to tell him/her, what is going on,
- Exhibits poor self – concept,
- Less effective use of gestures,
- Uses less of lip movement to articulate sounds,
- Rubs eyes excessively,
- Has difficulty in reading or work requiring close use of eyes,
- Blinks more than usual,
- Squint's eyelids together/frowns,
- Inflamed/watery eyes,
- Recurring sties,
- Eye's itch/burn,
- Cannot see well,
- Dizziness, headaches, or nausea,
- Blurred or double vision,
- Difficulty in orientation,
- Difficulties in object manipulation (<https://www.nvcofny.com/what-is-bvd/symptoms/>).

## 5.9 Hearing impairments

Students with hearing impairment are often visual learners. Hearing impairment may be congenital or acquired; some may have complete hearing loss, may have residual hearing. Impact on learning will depend on the degree of the impairment and cause of hearing loss ([https://www.handsandvoices.org/articles/parent\\_pro\\_collab/V10-1\\_learners.htm](https://www.handsandvoices.org/articles/parent_pro_collab/V10-1_learners.htm)).

### 5.9.1 Implications of hearing impairments

- Problem in taking meaningful notes,
- Poor or unintelligible reading,
- Difficulty in understanding verbal questions,
- Poor vocabulary,
- Problem in responding to oral tests,
- Difficulty in following verbal/group conversations,
- Problem in understanding abstract concepts and figurative language (like similes, metaphors and idioms),
- Problem in reading and learning spellings (because of difficulty in phonemic awareness and speech/sound discrimination),
- Challenge in organizing or composing ideas,
- Deficits in communicating ideas due to restricted vocabulary,
- Problem in comprehending new vocabulary,
- Poor in discriminating difference between sounds and words,
- Problem in understanding/using phrases/words with multiple meanings, terminologies/technical terms, abstract concepts, facts,
- Challenge in forming connections between ideas or concepts,
- Challenge in grammar usage and sentence construction,
- Poor in understanding of comparisons, cause effect relationships and chronology of events,
- Poor in reading heavy text and making inferences from text,
- Delay in linguistic growth, leading to lack of general vocabulary and technical vocabulary of mathematics and mathematical problems,
- Inadequate in distinguishing mathematical words while student is reading verbally,
- Limited use of cognitive strategies to select relevant information and approaches necessary for solving problems,
- Poor in solving problems that involve more than one dimension (<https://files.eric.ed.gov/fulltext/EJ1080447.pdf>).

## 5.9.2 Types of hearing impairments

There are two types:

### 5.9.2.1 Deafness

Deaf means a person having 70 dB hearing loss in speech frequencies in both ears.

### 5.9.2.2 Hard of hearing

Hard of hearing means a person having 60 dB to 70 dB hearing loss in speech frequencies in both ears.

## 5.9.3 Types of hearing loss

- Conductive,
- Sensory-neural,
- Mixed.

## 5.9.4 Characteristics

- Difficulty following verbal directions,
- Difficulty with oral expression,
- Difficulty with social / emotional or interpersonal skills,
- Language delay,
- Often follows and rarely leads,
- Exhibits difficulty in speech / articulation,
- Gets easily frustrated,
- Loss of sound directionality,
- Difficulty in speech discrimination against background sounds,
- Sounds or speech become unclear, dull or muffled,
- Pain or pressure in ears,
- Makes repeated mistakes in dictation,
- Complains that other's voice or sound is too low,
- Suddenly seems inattentive

<https://www.medicalnewstoday.com/articles/249285>)

## 5.10 Speech and language disabilities

Speech and language disability is a permanent disability resulting from conditions such as laryngectomy or aphasia that affects one or more components of speech and language due to biological or neurological causes.

The inability to communicate in the classroom can be very challenging for a student, as they struggle academically and experience socialization problems. These children will learn best using tactile, visual and auditory cues ([https://www.cbse.gov.in/cbsenew/Examination\\_Circular/2017/42\\_CIRCULAR.pdf](https://www.cbse.gov.in/cbsenew/Examination_Circular/2017/42_CIRCULAR.pdf))

### 5.10.1 Implications

- Difficulty in thinking skills including perception, memory, awareness, reasoning, judgment, intellect and imagination,
- Problem due to stuttering which may interruption of the flow of speech that may include hesitations, repetitions and prolongations of sounds or words,
- May struggle with reading, due to difficulty in understanding and expressing language,
- Misunderstands social cues,
- Avoids attending school,
- Shows poor judgment,
- Difficulty with taking tests,
- Reluctance to contribute during discussions,
- Difficulty in organizing ideas,
- Difficulty in producing sounds,
- Failure to follow directions,
- Difficulty in finding the right word for things,
- Reluctance to interact with other children,
- Problems in negotiating with rules for games,
- Difficulty in organizing information for recall,
- Slow in responding,
- Inattentiveness

<https://sites.google.com/site/languagedevelopmentgba/characteristics>)

### 5.10.2 Speech disorders

For children with speech disorders, it can be difficult to make the sounds that make up speech or put sentences together. Symptoms of a speech disorder include:

- trouble with the p, b, m, h, and w sounds at 1 to 2 years of age,
- problems with the k, g, f, t, d, and n sounds between the ages of 2 and 3.

<https://identifythesigns.org/signs-of-speech-and-language-disorders/>)

### 5.10.3 Language disorders

Have your child use fewer words and simpler sentences than their friends. These issues may be signs of a language disorder. For children with this disorder, it is difficult to find the right words or to speak in complete sentences. It can be difficult for them to understand what others say. Your child may have this disorder if they:

- Do not babble for 7 months,
- Speak only a few words by 17 months,
- Cannot put two words together for 2 years,
- Have problems playing and talking with other children aged 2 to 3 years

<https://identifythesigns.org/signs-of-speech-and-language-disorders/>)

#### 5.10.4 Types

Aphasia is communication disorder resulting from damage / injury to language parts in brain. The four major areas in which impairments occur are:

- Articulation disorders - Errors in production of speech sounds.
- Fluency disorders - Fluency refers to flow of speech.
- Voice disorders - Problems with quality of voice resulting from disorders in larynx.
- Language disorder - Impaired ability to understand / use words in context (<https://www.medicalnewstoday.com/articles/324764>).

#### 5.10.5 Characteristics

- Difficulty in producing sounds,
- Addition, omission, substitution or distortion of sounds of words,
- Stuttering: repetitions, hesitations, or prolongations of words or sentences,
- Problems with pitch, loudness, resonance, or quality of the voice,
- Loss of voice,
- Loss of endurance,
- Improper use of words and their meanings,
- Inability to express ideas,
- Inappropriate grammatical patterns,
- Reduced vocabulary,
- Inability to follow directions,
- Trouble communicating or comprehending (<http://www.ldonline.org/article/6336/>)

#### 5.11 Intellectual disabilities

A student with intellectual disability learns and understands at a much slower pace than the average peer. Their intellectual development will always be significantly lagging behind due to intellectual impairment. Use of real objects in natural environments is an essential component in teaching students with intellectual disabilities. Visual supports and learning by practical tasks will help facilitate learning, among persons with intellectual disabilities (<http://www.projectidealonline.org/v/intellectual-disabilities/>).

Intellectual disability, a condition characterized by significant limitation both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behavior which covers a range of every day, social and practical skills, including;

##### 5.11.1 Implications

- Difficulty in understanding and learning from new, experiences and information,
- Short attention span,
- Difficulty with memory retention,
- Lack of ability to learn from incidental experiences,
- Difficulty in transferring learning from routine,

- experiences to new situations,
- Difficulty with communication and social skills,
- Slow in cognitive processing time,
- Difficulty in sequential processing of information, planning, organizing and generalizing,
- Slow in comprehending abstract concepts,
- Poor in listening, expressing ideas / speaking fluently and coherently,
- Poor reading including decoding, phonetic knowledge and word recognition,
- Poor in eye-hand coordination and writing skills,
- Poor language comprehension,
- Poor in understanding figurative language - idioms, metaphors, similes etc.,
- Difficulty in accessing written work, illustrations, charts, graphs and maps,
- Challenge in extracting relevant information from bulk information,
- Poor in mathematical calculations (computations), copying problems etc.,
- Difficulty in sequencing, step wise problem solving and comprehending number place value,
- Confusion in mathematics operational symbols,
- Poor comprehension of word problems,
- Slow in understanding technical language,
- Poor in inferring meaningful linkages/relationships between concepts (<https://www.pbs.org/wgbh/misunderstoodminds/mathdiffs.html>)

### 5.11.2 Types of intellectual disabilities

Category	IQ level	Educational Expectation
Mild	50-69	Educable
Moderate	35-49	Trainable
Severe	20-34	Custodial
Profound	Below 20	Custodial

### 5.11.3 Characteristics

- Global delay in development (physical, cognitive, social, language & communication etc.),
- Slow to react,
- Difficulty in setting goals and problem solving,
- Poor co-ordination,
- Short attention span and easily distractible,
- Poor memory,
- Difficulty in learning concepts,
- Difficulty or low achievement in academic skills/strategies (e.g., note taking, memorizing, definitions),
- Slow rate of learning as compared to peer students,
- Difficulty with generalization,

- Difficulty with advanced academic skills,
- Delays in language affecting reading,
- Poor receptive and expressive language,
- Weak vocabulary,
- Thinks at concrete level,
- Limitations in Activities of Daily Living (ADL),
- Speech delayed or absent,
- Lacks understanding of personal safety/community navigation issues,
- Poor social skills,
- Difficulty in linking actions to consequences,
- Uses simple language with short sentences,
- Exhibits challenging behaviors,
- Difficulty following rules and routine, associated with Down's Syndrome features ([https://www.pacarepartnership.org/uploads/MH\\_fact\\_sheet\\_minn07.pdf](https://www.pacarepartnership.org/uploads/MH_fact_sheet_minn07.pdf))

### **5.12 Specific learning disabilities**

Specific learning disabilities is a heterogeneous group of conditions wherein there is a deficit in processing language, spoken or written, that may manifest itself as a difficulty to comprehend, speak, read, write, spell, or to do mathematical calculations and includes such conditions as perceptual disabilities, dyslexia, dysgraphia, dyscalculia, dyspraxia and developmental aphasia (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6149300/>).

#### **5.12.1 Common types of specific learning disabilities**

- Perceptual disorders,
- Dyslexia,
- Dyscalculia,
- Dysgraphia,
- Dyspraxia,
- Aphasia.

#### **5.12.2 Implications**

- Language processing can make reading and writing slow and challenging,
- Have a memory deficit,
- Needing of more time to process information before answering questions or responding to it, which can lead to difficulties contributing to class or group discussions,
- It can be difficult to listen,
- Poor in planning and planning,
- Difficulty in tracking assignments or supplies and delivering work on time,
- Failure to edit and interpret information that comes with visual or auditory input,
- Failure to monitor and evaluate performance,
- Difficulty reading and writing, word analysis, fluency and comprehension,

- Poor in understanding basic meanings, such as complex or figurative language and correcting language for different purposes and purposes,
- It is as if you skipped words, lost space, missed one word to another, postponed pronunciation etc.,
- Difficulty writing due to poor order and sentence structure,
- Limited and repeated use of vocabulary; unnecessary or unrelated details or information; make errors in spelling, punctuation, grammar and handwriting,
- Difficulty with numbers, remembering facts and sequences, understanding concepts related to direction, place value, decimals, fractions and time,
- Poor understanding of word problems (<https://www.churchillstl.org/learning-disability-resources/specific-learning-disabilities/>).

### 5.12.3 Common types of learning disabilities

Type of Learning Disability	Problem
Dyslexia – Difficulty with reading	Problems reading, writing, spelling, speaking
Dyscalculia – Difficulty with math	Problems doing math problems, understanding time, using money
Dysgraphia – Difficulty with writing	Problems with handwriting, spelling, organizing ideas
Dyspraxia (sensory integration disorder) – Difficulty with fine motor skills	Problems with hand-eye coordination, balance, manual dexterity
Dysphasia/Aphasia – Difficulty with language	Problems understanding spoken language, poor reading comprehension
Auditory Processing Disorder – Difficulty hearing differences between sounds	Problems with reading, comprehension, language
Visual Processing Disorder – Difficulty interpreting visual information	Problems with reading, math, maps, charts, symbols, pictures

#### 5.12.3.1 Dyslexia

Dyslexia is a learning disorder that involves difficulty reading due to problems identifying speech sounds and learning how they relate to letters and words (decoding). There are two types of learning disabilities in reading. Basic reading problems occur when there is difficulty understanding the relationship between sounds, letters and words. Reading comprehension problems occur when there is an inability to grasp the meaning of words, phrases, and paragraphs (<https://www.mayoclinic.org/diseases-conditions/dyslexia/symptoms-causes/syc-20353552>).

Signs of reading difficulty include problems with:

- Letter and word recognition,
- Understanding words and ideas reading,
- Speed and fluency general vocabulary,
- Skills.



### 5.12.3.1.1 Characteristics

- Delayed speech/language development,
- Labeled – lazy, dumb, careless, "not trying enough", having problematic behaviors,
- Slows progress in acquiring reading skills with remedial help,
- Fear/avoidance of reading aloud
- Reading is slow and labored,
- Reading shows repetition, addition, omission or substitution of words/letters,
- Spelling may be poor or inconsistent,
- Spells phonetically,
- Complains of headaches, dizziness, feeling or seeing non-existent movement while reading or writing (blurry, swimming etc.),
- Unable to associate letters with associated/represented sounds,
- Mispronounce words and immature speech,
- Inability to learn simple nursery rhymes,
- Difficulty in learning and remembering letters/alphabet,
- Problem in sequencing,
- Reversals in reading/writing letters, numbers, words,
- May have problems copying from black-board, as they frequently lose their place,
- Illegible handwriting,
- Difficulty repeating what is said and following oral instructions,
- Difficulty remembering/understanding what they have just read,
- Difficulty putting their thoughts on paper, though they may be able to orally express well,
- May have confusion in left-right directionality,
- May have trouble telling time,
- Difficulty in sustaining attention,
- Poor short-term memory,
- Average or high I.Q. (<https://www.mayoclinic.org/diseases-conditions/dyslexia/symptoms-causes/syc-20353552>).

### 5.12.3.2 Dyscalculia

Learning disabilities in math vary greatly depending on the child's other strengths and weaknesses. A child's ability to do math will be affected differently by a language learning disability, or a visual disorder or a difficulty with sequencing, memory or organization. A child with a math-based learning disorder may struggle with memorization and organization of numbers, operation signs, and number "facts" (like  $5+5=10$  or  $5\times 5=25$ ). Children with math learning disorders might also have trouble with counting principles (such as counting by twos or counting by fives) or have difficulty telling time (<https://www.understood.org/articles/en/what-is-dyscalculia>).

Difficulty with numbers affecting ability to perform arithmetic skills.

#### 5.12.3.2.1 Characteristics

- Difficulty with number value / placement,
- Difficulty to count,
- Trouble recognizing printed numbers,
- Difficulty with idea of number, with what value it represents in practice,
- Poor memory for numbers,
- Trouble organizing things in logical way/sorting by shape/size/color etc.,
- Trouble recognizing groups/patterns,
- Trouble learning math facts,
- Difficulty developing math problem solving skills,
- Poor sense of direction, confusion with left/right orientation,
- Easily disoriented and easily confused by changes in routine,
- Avoiding games that require strategy,
- Difficulty reading time on a clock/with concept of time,
- Difficulty learning math concepts beyond basic math facts,
- Trouble with mental math,
- Good memory for printed words, but difficulty reading numbers or recalling numbers, in sequence,
- Inability to write numerals and mathematical symbols correctly,
- Difficulty in mathematical calculations/computation,
- Difficulty in grasping basic concepts, dimensions, measuring units,
- Poor comprehending place value of numbers,
- Difficulty estimating cost (shopping, groceries)  
(<https://en.wikipedia.org/wiki/Dyscalculia>).

#### 5.12.3.3 Dysgraphia

Learning disabilities in writing can involve the physical act of writing or the mental activity of comprehending and synthesizing information. Basic writing disorder refers to physical difficulty forming words and letters. Expressive writing disability indicates a struggle to organize thoughts on paper.  
(<https://www.understood.org/articles/en/understanding-dysgraphia>)

Symptoms of a written language learning disability revolve around the act of writing. They include problems with:

- Neatness and consistency of writing,
- Accurately copying letters,
- Words spelling consistency writing,
- Organization and coherence.

#### 5.12.3.3.1 Characteristics

- Tight, awkward pencil grip and body position,
- Illegible handwriting,
- Avoids writing/drawing tasks,

- Tires quickly while writing,
- Says words aloud while writing,
- Adds/substitutes/omits letters/words,
- Difficulty organizing thoughts on paper,
- Difficulty with syntax structure and grammar,
- Inconsistencies like mixing of print and cursive, upper and lower-case letters/irregular sizes/shapes of letters/spaces between words/letters,
- Inconsistent position on page with respect to lines/margins,
- Content which does not reflect the student's other language skills,
- Poor in spellings,
- Omits/substitutes/adds words/letters,
- Has difficulty pre-visualizing letter formation/word closure
- Writing is slow or labored (<https://en.wikipedia.org/wiki/Dysgraphia>).

#### 5.12.3.4 Dysphasia

Motor difficulty refers to problems with movement and coordination whether it is with fine motor skills (cutting, writing) or gross motor skills (running, jumping). A motor disability is sometimes referred to as an "output" activity meaning that it relates to the output of information from the brain. In order to run, jump, write or cut something, the brain must be able to communicate with the necessary limbs to complete the action. Signs that your child might have a motor coordination disability include problems with physical abilities that require hand-eye coordination, like holding a pencil or buttoning a shirt (<https://www.webmd.com/brain/what-is-dysphasia>).

##### 5.12.3.4.1 Characteristics

- Difficulty in holding a pen properly,
- Poor sense of direction and gets lost easily,
- Organizational difficulties including workload,
- Difficulties in learning new complex skills/tasks such as driving a car, dancing,
- Difficulty in understanding body language,
- May become withdrawn, isolated,
- Difficulties in developing relationships
- Walks awkwardly or clumsily, they may fall over easily,
- Poor stance or posture,
- Difficulties in playing ball games,
- Forgetful, gets easily frustrated,
- Obsessive behavior or phobias may be present,
- Individuals may be far more impatient and agitated than their peers (<https://www.thewaltoncentre.nhs.uk/patient-leaflets/what-is-dysphasia/468869>).

### 5.12.3.5 Aphasia

Language and communication learning disabilities which involve the ability to understand or produce spoken language. Language is also considered an output activity because it requires organizing thoughts in the brain and calling upon the right words to verbally explain something or communicate with someone else.

Signs of a language-based learning disorder involve problems with verbal language skills, such as the ability to retell a story and the fluency of speech, as well as the ability to understand the meaning of words, parts of speech, directions, etc.

A communication disorder resulting from damage or injury to language parts in brain. It's more common in old adults, particularly those who had stroke. (<https://www.mayoclinic.org/diseases-conditions/aphasia/symptoms-causes/syc-20369518#:~:text=Aphasia%20is%20a%20condition%20that,stroke%20or%20a%20head%20injury>).

#### 5.12.3.5.1 Characteristics

- Does not affect thinking skills or impair intelligence,
- Has trouble speaking,
- Struggles with finding right words,
- Uses meaningless or inappropriate words / sentences in conversations,
- Fails to realize they are saying the wrong word,
- Says a word that is close to what they intend, but not the exact word,
- May get out a few words at a time but may leave out words like "is" or "the.",
- May have difficulty communicating about daily activities,
- Have difficulty in forming word sentences,
- Recognizes if someone is asking a question or expressing anger,
- Difficulty in understanding words / sentences but may comprehend meanings,
- Difficulty following directions,
- Trouble using numbers or doing simple calculations.

#### 5.12.3.5.2 Types

- Expressive Aphasia/Broca's Aphasia (non-fluent): the person knows what he / she wants to say, yet has difficulty communicating it.
- Receptive Aphasia/Wernicke's Aphasia (fluent): the person can hear a voice or read print, but may not understand meaning of message
- Anomic Aphasia: difficulty in finding right words for speaking and writing.
- Global Aphasia: this is the most severe type of aphasia where both Expressive and Receptive language are impaired.
- Primary Progressive Aphasia: it is type of dementia (<https://en.wikipedia.org/wiki/Aphasia>)

### 5.12.3.6 Auditory processing disorders

Professionals may refer to the ability to hear well as "auditory processing skills" or "receptive language." The ability to hear things correctly greatly impacts the ability to read, write and spell. An inability to distinguish subtle differences in sound or hearing sounds at the wrong speed make it difficult to sound out words and understand the basic concepts of reading and writing ([https://kidshealth.org/en/parents/central-auditory.html#:~:text=Auditory%20processing%20disorder%20\(APD\)%20is,brain%20do n't%20fully%20coordinate](https://kidshealth.org/en/parents/central-auditory.html#:~:text=Auditory%20processing%20disorder%20(APD)%20is,brain%20do n't%20fully%20coordinate)).

### 5.12.3.7 Visual processing disorders

Problems in visual perception include missing subtle differences in shapes, reversing letters or numbers, skipping words, skipping lines, misperceiving depth or distance, or having problems with eye-hand coordination. Professionals may refer to the work of the eyes as "visual processing." Visual perception can affect gross and fine motor skills, reading comprehension, and math ([https://www.advancedvisiontherapycenter.com/about/blog/e\\_1096/Signs-of-a-Vision-Problem/2021/4/What-is-Visual-Processing-Disorder-](https://www.advancedvisiontherapycenter.com/about/blog/e_1096/Signs-of-a-Vision-Problem/2021/4/What-is-Visual-Processing-Disorder-)).

#### 5.12.3.7.1 Characteristics

- Visual perception deficits: problems with organization, positioning, judging distance, eye hand coordination (inability to read social cues/facial expressions).
- Auditory perception deficits: inability to distinguish differences between sounds/trouble staying focused/keeping up with auditory input,
- Smell and taste perception deficits: inability to distinguish odors and tastes,
- Tactile perception deficits: hypo (less than normal) or hyper (more than normal) sensitivity to stimuli,
- Vestibular perception deficit: difficulty in balance and equilibrium.
- Proprioceptive perception deficit: poor body self-awareness (<https://www.readandspell.com/visual-processing-disorders>).

### 5.13 Autism spectrum disorders

Autism spectrum disorder is a neuro-developmental condition typically appearing in the first three years of life that significantly affects a person's ability to communicate, understand relationships and relate to others, and is frequently associated with unusual or stereotypical rituals or behaviors.

Children with Autism Spectrum Disorder (ASD) have deficits in social and communication skills, thinking / behavior and sensory function. Learning is facilitated by the introduction of a variety of teaching methods and learning resources appropriate to appropriate learning styles and teaching methods. Since students with ASD are visual and concrete thinkers, they learn best through visual cues and services. Few students are good at hearing (<https://www.mayoclinic.org/diseases-conditions/autism-spectrum-disorder/symptoms-causes/syc->

[20352928#:~:text=Autism%20spectrum%20disorder%20is%20a,and%20repetitive%20patterns%20of%20behavior.\)](#)

### 5.13.1 Implications

- Difficulty in communication skills,
- social skills, thought and behavior and sensory processing,
- Challenge in motor planning and organizational skills.
- Short attention span,
- Poor imitative skills,
- Difficulty in comprehension,
- Challenge with social environment of the school,
- Weak on motor skills,
- Conventional behavior management techniques may not work,
- Poor verbal abilities, but inability to report/description of a problem/answer/converse,
- They are detailed learners; they may see a part but not perceive whole picture,
- Poor auditory learners and reading comprehension,
- Difficulty in generalizing,
- Difficulty in adapting to language used at home, when it different from one used in school,
- Understanding of abstract concepts and figurative language (like similes, metaphors and idioms),
- Slow in acquiring pre-academic concepts,
- Lack of motivation,
- May not comprehend academic concepts taught,
- Difficulty in understanding/adhering to behaviors necessary for academic learning,
- Excellent rote memory skills, but difficulty in comprehending meaning,
- Sensory processing challenges may hinder the way they learn ([https://en.wikipedia.org/wiki/Autism\\_spectrum](https://en.wikipedia.org/wiki/Autism_spectrum)).

### 5.13.2 Characteristics

- Withdrawn, prefers isolated play/be alone may not readily respond when called,
- Uneven skill development,
- Repetitive or odd rigid behaviors,
- Overly focused interest or attachment to preferred objects,
- Lasting, intense interest in certain topics,
- Verbal children can talk at length about a favorite subject,
- Gets upset by change in routine or in a new setting, needs sameness,
- Avoids or makes little or inconsistent eye contact,
- Delayed or absent Speech and language difficulties,
- Echolalic speech - repetitive use of words, phrases, sentences,

- Hyperlexic,
- May have low, average or above-average intelligence,
- Strong visual / auditory learners,
- Concrete thinkers,
- Answers incoherently to questions,
- Difficulty with verbal communication (non-verbal),
- Pronoun reversal,
- Speech – meaningless, idiosyncratic,
- May play in presence of others but not with them,
- Difficulty with Social imitative, pretend play/reciprocal play,
- Memory – excellent in remembering people/facts but finds difficulty remembering multiple commands,
- Doesn't perceive fear/danger,
- May be aggressive and self – injurious,
- Challenges with sensory processing (very sensitive to light/noise/tactile like clothing or temperature),
- Unusual tone modulation of voice,
- Sleep problems, digestion problems and irritability (<https://www.autismspeaks.org/what-autism>).

#### **5.14 Mental behaviors**

Mental illness is a substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgment, behavior, capacity to recognize reality or ability to meet the ordinary demands of life, but does not include retardation which is a condition of arrested or incomplete development of mind of a person, specially characterized by sub normality of intelligence.

Mental behaviors or mental illness have different stages of symptoms. Well-planned and well-executed social and emotional programs can have a positive effect on learning outcomes. Since each person is different, it is important to deal with students' learning styles (hearing, sight, suggestion or combination of styles). Incorporating learning activities can help increase learning outcomes (<https://www.psychiatry.org/patients-families/what-is-mental-illness>).

##### **5.14.1 Implications**

- Inability to filter environmental stimuli such as sounds, sights or smells,
- Inability to concentrate due to feeling of restlessness, short attention span, easily distracted, or have difficulty in remembering verbal directions,
- May not have enough energy to spend a whole day in school or do an activity for a long time at a stretch due to drowsiness from medication,
- Difficulty handling time-based deadlines, pressures and multiple tasks, managing assignments, setting priorities or meeting deadlines,
- Difficulty in interacting with others,

- Difficulty in handling negative feedback, understanding and interpreting criticism,
- Difficulty in responding to change,
- May refuse to begin due to fear of not being able to do anything right,
- May experience fluctuations in mood, energy and motivation,
- Has difficulty in taking notes during class,
- Submits late or incomplete assignments with careless mistakes,
- Repeated absenteeism,
- High level of anxiety and frustration,
- Student is easily fatigued or exhausted,
- Worries about getting everything right, as a result take longer to complete given tasks,
- Refusal to begin tasks or avoidance of classes /school out of fear of failure (<https://www.healthline.com/health/thought-disorder#causes>)

### 5.15 Mental illnesses

Mental illness is a substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgment, behavior, capacity to recognize reality or ability to meet the ordinary demands of life, but does not include retardation which is a condition of arrested or incomplete development of mind of a person, specially characterized by sub normality of intelligence (<https://www.psychiatry.org/patients-families/what-is-mental-illness>).

Mental illness affects emotions, thought and behavior.

#### 5.15.1 Types of mental illnesses

- Mood disorder,
- Anxiety disorder,
- Personality disorder,
- Psychotic disorder (Schizophrenia),
- Eating disorder,
- Stress disorder,
- Substance (drugs) abuse disorder,
- Attention deficit disorder,
- Attention deficit hyperactivity disorder,
- Obsessive compulsive disorder (OCD),
- Other psychotic disorder (<https://medlineplus.gov/mentaldisorders.html>).

#### 5.15.2 Characteristics

- Confusion in thinking/inadequate concentration, difficulty expressing thoughts logically,
- Excessive and intense fear, suspiciousness, worry or anxiety,
- Extreme feelings of guilt,



- Withdrawal from friends/daily activities,
- Significant tiredness, low energy/problem in sleeping,
- Detachment from reality (delusions), paranoia or hallucinations,
- Inability to cope with daily problems/stress,
- Trouble understanding and relating to situations and to people ,
- Substance abuse,
- Sex drive changes,
- Frequent outbursts of anger,
- Suicidal thoughts/attempts suicide,
- Acts in a disturbing, aggressive, bizarre, hostile or violent manner,
- Thinks or talks about killing another person,
- Memory impairment,
- Deterioration in appearance or neglect of grooming,
- Feeling of powerfulness/invincibility,
- Disproportionate response to sensory stimulation (noise, smell, light),
- Changes in mood,
- Erratic thinking,
- Impulsive actions,
- Prolonged depression (sadness or irritability),
- Major changes in eating or sleeping habits,
- Inability to cope with daily problems/activities,
- Numerous unexplained physical ailments,
- Changes in ability to manage responsibilities - at home/school,
- Defiance of authority, truancy, theft/vandalism,
- Prolonged negative mood, often accompanied by poor appetite or thoughts of death,
- Change school performance,
- Poor grades despite efforts,
- Changes in sleep/eating habits,
- Excessive worry or anxiety (i.e., refusing to go to bed or school),
- Hyperactivity,
- Persistent nightmares,
- Persistent disobedience or aggression,
- Frequent temper tantrums (<https://medlineplus.gov/mentaldisorders.html>).

### **5.16 Chronic neurological conditions**

Chronic neurological conditions mean a condition that has its origin in some part of person's nervous system lasting for a long period of time or marked by frequent recurrence.

In chronic neurological conditions it is important to address differential learning styles (auditory, visual, kinesthetic or a combination of styles) and find each individual's learning style, as each case will be different from the next

[\(https://www.england.nhs.uk/ourwork/clinical-policy/ltc/our-work-on-long-term-conditions/neurological/\)](https://www.england.nhs.uk/ourwork/clinical-policy/ltc/our-work-on-long-term-conditions/neurological/).

### **5.17 Multiple sclerosis**

Multiple sclerosis means an inflammatory, nervous system disease in which the myelin sheaths around the axons of nerve cells of the brain and spinal cord is damaged, leading to demyelination and affecting the ability of nerve cells in the brain and spinal cord to communicate with each other (<https://www.mayoclinic.org/diseases-conditions/multiple-sclerosis/symptoms-causes/syc-20350269>).

#### **5.17.1 Implications**

- Schooling may be interrupted by relapses,
- Difficulties with concentration, memory, emotional expression and self-control,
- Vision may be blurry or may have double vision which will impact reading, writing or attention,
- A child's attention span and thinking abilities - such as the ability to reason and process and remember information - may be hindered /impacted,
- Writing can be affected due to acute attacks or lingering symptoms that can cause numbness, weakness, fatigue, poor posture or coordination difficulties,
- Trouble socializing because of their physical symptoms ([https://en.wikipedia.org/wiki/Multiple\\_sclerosis](https://en.wikipedia.org/wiki/Multiple_sclerosis)).

#### **5.17.2 Characteristics**

- Fatigue,
- Weakness,
- Numbness,
- Walking (gait), balance, coordination problems,
- Bladder dysfunction,
- Bowel dysfunction,
- Vision problems,
- Dizziness and vertigo,
- Sexual dysfunction,
- Pain,
- Cognitive dysfunction,
- Emotional changes,
- Depression,
- Spasticity,
- Speech disorders,
- Swallowing problems,
- Headache,
- Hearing loss,
- Seizures,

- Tremors,
- Respiration/breathing problems,
- Itching (<https://www.mayoclinic.org/diseases-conditions/multiple-sclerosis/symptoms-causes/syc-20350269>).

### 5.18 Parkinson's disease

Parkinson's disease means a progressive disease of the nervous system marked by tremor, muscular rigidity, and slow, imprecise movement, chiefly affecting middle-aged and elderly people associated with degeneration of the basal ganglia of the brain and a deficiency of the neurotransmitter dopamine ([https://en.wikipedia.org/wiki/Parkinson%27s\\_disease](https://en.wikipedia.org/wiki/Parkinson%27s_disease)).

There will be educational implications students who have juvenile Parkinson's disease (onset before age 20 years) which is rare and is also usually an inherited form of Parkinson's disease.

#### 5.18.1 Implications

- Tremors and dystonia,
- Falls and postural instability,
- Rigidity, muscle tension and spasms,
- Weakness in hands and poor dexterity,
- Cognitive skills may be affected.

#### 5.18.2 Types

Parkinson's disease appears in five different stages:

- **Stage one:** Mild symptoms, such as tremors or shaking of limbs, poor posture, loss of balance and atypical facial expressions.
- **Stage two:** Symptoms are bilateral, affecting both limbs/both sides of body/problems in walking/maintaining balance/inability to complete normal physical tasks becomes challenging.
- **Stage three:** Severe inability to walk straight/stand. There is noticeable slowing of physical movements.
- **Stage four:** Walking may still occur, but is often limited and rigid/bradykinesia (slowing of movements are often visible). Most patients are unable to complete day-to-day tasks, usually cannot live on their own.
- **Stage five:** The person is unable to take care of him or herself (<https://www.medicalnewstoday.com/articles/323396>).

#### 5.18.3 Characteristics

- Slowness of voluntary movements, especially initiation of movements like walking/rolling on bed,
- Decreased facial expressions/monotonous speech/decreased eye blinking,
- Mask - like appearance due to diminished facial expressions,

- Shuffling gait with poor arm swing/stooped posture,
- Unsteady balance (difficulty in rising from sitting position),
- Continuous "pill-rolling" motion of the thumb and forefinger,
- Abnormal tone/stiffness of trunk and extremities,
- Difficulty swallowing/chewing (swallowing problems in later stages),
- Light headedness/loss of balance/fainting when standing (orthostatic hypotension),
- Stooped posture (when the head is bowed and shoulders slumped),
- Head shaking,
- Voice/speech changes (Voice will become softer with poor pronunciation),
- Loss of motor skills,
- Memory problems,
- Change in handwriting (smaller writing),
- Constipation,
- Depression,
- Feelings of fear and anxiety,
- Confusion,
- Dementia,
- Fatigue,
- Drooling,
- Skin problems (dandruff),
- Sleep disturbances,
- Urinary problems,
- Sexual dysfunction ([https://en.wikipedia.org/wiki/Parkinson%27s\\_disease](https://en.wikipedia.org/wiki/Parkinson%27s_disease)).

### 5.19 Blood disorders

A blood disorder is any condition that impacts one or more parts of the blood, usually interfering with its ability to work correctly.

Most blood disorders decrease the number of cells, proteins, platelets, or nutrients in the blood, or interfere with their function. A majority of blood disorders are caused by mutations in parts of specific genes and can be passed down in families (<https://www.medicalnewstoday.com/articles/322260>).

#### 5.19.1 Hemophilia

Hemophilia is an inheritable disease, usually affecting only male but transmitted by women to their male children, characterized by loss or impairment of the normal clotting ability of blood so that a minor wound may result in fatal bleeding.

Hemophilia is usually a bleeding disease that occurs when the blood does not clot properly. This can lead to spontaneous bleeding and bleeding following injury or surgery. Blood contains a lot of protein called clotting factor that can help stop bleeding. People with hemophilia have low levels of factor VIII (8) or factor IX (9). The amount of hemophilia a person has is determined by the number of substances in his blood. The

lower the risk factor, the more likely it is that bleeding will lead to serious health problems. In rare cases, a person can develop hemophilia later in life. Most cases involve middle-aged or elderly people, or young women who have just given birth or are in the early stages of pregnancy. This condition is usually resolved with appropriate treatment (<https://www.cdc.gov/ncbddd/hemophilia/facts.html#:~:text=Hemophilia%20is%20usually%20an%20inherited,can%20help%20to%20stop%20bleeding>).

### **5.19.2 Thalassemia**

Thalassemia means a group of inherited disorders characterized by reduced or absent amounts of hemoglobin.

Thalassemia is hereditary (that is, hereditary from parents to children) a disorder caused by a deficiency of the protein hemoglobin, an important component of red blood cells. When there is not enough hemoglobin, the body's red blood cells do not work properly and are short-lived, so there are few red blood cells in the bloodstream.

Red blood cells carry oxygen to all the cells in the body. Oxygen is the type of food used by cells to function. If there are not enough red blood cells, and not enough oxygen is brought to the rest of the body, it can cause fatigue, weakness or shortness of breath. This is a condition called anemia. People with thalassemia may have mild or severe anemia. Severe anemia can damage organs and lead to death (<https://www.cdc.gov/ncbddd/thalassemia/facts.html>).

### **5.19.3 Sickle cell disease**

Sickle cell disease is a hemolytic disorder characterized by chronic anemia, painful events, and various complications due to associated tissue and organ damage; "hemolytic" refers to the destruction of the cell membrane of red blood cells resulting in the release of hemoglobin.

Sickle cell anemia is one of the group of problems known as sickle cell disease. Sickle cell anemia is an inherited red disease in which there are not enough healthy red cells to carry oxygen throughout your body. Normally, flexible, circulating red blood cells flow freely through the bloodstream (<https://www.cdc.gov/ncbddd/sicklecell/facts.html>).

## **5.20 Multiple disabilities including deaf blindness**

Multiple disabilities (more than one of the above specified disabilities) including deaf blindness which means a condition in which a person may have combination of hearing and visual impairments causing severe communication, developmental, and educational problems (<https://wecapable.com/multiple-disabilities-meaning-definition-examples/>).

### **5.20.1 Implications**

- Challenge in mobility like walking, standing or bending,
- Communication difficulties in child's ability to effectively communicate with teachers, support staff and peers,
- Poor thinking and focusing ability,

- Cognitive impairment,
- Challenge in identifying suitable instructional setting to match intelligence level.
- Challenge to function in the classroom,
- Problem in providing appropriate assessment and compensating instructional strategies for visual or hearing impairments,
- Deficits in motor development,
- Sensory impairments,
- May have difficulty attaining skills and memorizing/transferring learn skills from routine to life situations.

### 5.20.2 Types

- Deafblind + Hearing impairment,
- Visual impairment + Hearing impairment,
- Visual impairment + Hearing impairment + Mental retardation
- Visual impairment + Mental retardation,
- Cerebral palsy + Mental retardation,
- Cerebral palsy + Hearing impairment,
- Cerebral palsy + Speech disorder,
- Cerebral palsy + Visual impairment

### 5.20.3 Characteristics

- Poor short/long term memory,
- Problem processing information,
- Inability to organize/problem solving responses,
- Communication is affected,
- May have speech characterized by substitution, omissions,
- Lacks high level thinking and comprehension skills,
- Temper tantrums,
- Trouble in abstract thinking,
- Problems in carrying out ADL/self - care skills,
- Difficulty in mobility,
- Poor in learning (education is affected),
- Interaction with people is limited,
- Usually dependent on others,
- Tendency to withdraw from society,
- May become fearful, angry and upset in the face of forced or unexpected changes
- May execute self-injurious behavior,
- Displays immature behavior not at par with their chronological age,
- Exhibit impulsive behavior,
- Medical problems may accompany severe disabilities (include seizures, sensory loss, hydrocephalus, sclerosis),
- Physically clumsy and awkward,

- Difficulty participating in games involving motor-skills,
- Experience fine-motor deficits,
- Forgets skills through disuse,
- Trouble generalizing skills from one situation to another,
- Poor in problem-solving skills,
- Poor test taker due to limiting factors of disabilities,
- May have difficulty locating sound direction,
- Difficulty learning about objects and their relationships.  
(<https://www.nationaldb.org/info-center/deaf-blindness-overview/>).

#### **5.20.4 Deaf blindness**

Deafblind condition is a combination of visual and hearing impairment. Students with Deafblind condition have unique educational needs. They cannot learn by sight or hearing; they can only learn by doing and with tactile mode.

Deaf blindness is a combination of hearing and visual impairments causing severe communication, developmental / educational problems like:

- Moderate to profound hearing and significant visual impairments,
- Moderate to profound hearing and significant visual impairments and other significant disabilities,
- Central processing problems of vision and hearing domains,
- Progressive sensory impairments or significant visual impairment,
- Possible loss of auditory processing mechanisms (associated with severe physical disability or severe cognitive disability) and severe communication delay.

##### **5.20.4.1 Implications**

- Cannot understand conventional classroom lectures.
- Challenge for participation in class discussions.
- Challenge in presenting oral reports.
- Problem in fulfilling reading assignments.
- Difficulty with communication.
- Distorted perception.
- Difficulty in imaging the whole picture or relating an element to the whole.
- Anticipation: Difficulty in knowing what is going to happen next.
- Motivation: The motivating factors may be missing from a situation, going unseen or unheard.

##### **5.20.4.2 Characteristics**

- Difficulty bonding with caregivers and establishing/maintaining interpersonal relationships,
- Feelings of vulnerability: generally (learner feels safer in a seated position),
- Difficulty in communication skills,
- Trouble learning object permanence,

- Delayed understanding that there are consequences to actions,
- Inconsistent responses to sounds/visual inputs,
- Distorted perception of world (typically perceive time differently - time seems to pass much more slowly),
- Unusual responses via the impact senses (e.g., tactile sensitivity or tactile defensiveness, particularly around face),
- An overactive startle response,
- Difficulty interacting with things in environment in a meaningful way/generalizing information,
- Stereo-typical responses (because of fear/confusion/sensory deprivation),
- Delayed motor skills, such as crawling and reaching; difficulties interpreting movement; problems in maintaining and restoring balance.  
(<https://www.nationaldb.org/info-center/deaf-blindness-overview/>)

## 6. Conclusion

India is a developing country. Where the world's second largest population resides, making inclusion a reality is fraught with challenges. The concept of inclusive education is like a beginning in our country, this education can benefit the handicapped as well as normal children, so in inclusive education, the use of education is only in name. Due to which the handicapped as well as normal children have to face difficulty in getting education in school. Therefore, efforts will have to be made for inclusive education for Disabled (Divyangjan) at the national and international level. Through which technology, communication process, information and communication technology, telecommunication, satellite communication, computer, hardware and software, internet, e-school, social media, artificial intelligence are used in education with the help of inclusive education easily in all schools of our country. can be expanded. So that suitable amount of equipment, and technical teaching-training to operate can be easily available. And the national level institutions working in the field of disability, government and non-government, and the companies involved in manufacturing equipment related to the disabled, all of them will have to come forward, then inclusive education will be complete.

## 7. Recommendations

Universalization of education is a dream which can be achieved only when there are concerted efforts of the government as well as stakeholders of the inclusive education system. Apart from the government, we need to understand and analyze this issue from the perspective of schools, parents as well as the children themselves. The idea of inclusive education is a child of competence approach which seeks to enable the underprivileged section of the society rather than empathize with them throughout their lives. They have the right to live and get education. The education referred to should be



similar to that received by children with disabilities. Children with disabilities should in no way be less competitive or at a disadvantage due to lack of access to mainstream schools. For successful implementation of inclusive education system in India parents, teachers and even children with disabilities have to be educated about this system and made aware of its benefits. These people play an important role in the implementation process as they regularly interact with children with disabilities and create the environment around them. To effectively understand the barriers to inclusive education, we need to understand the difficulties of the implementation process from the perspective of all these groups of people. It is important to understand the real-life problems that parents of children with disabilities face, forcing them to choose specialized schools to reduce the problems of their children. Similarly, it is equally important to analyze the barriers to inclusive education from the perspective of teachers and school authorities. Something about the lack of training of teachers, inadequate infrastructure, lack of trained staff, extra care and supervision provided to these children, children without peers and negative attitude of parents making them take responsibilities of children with disabilities There may be concerns. Disabilities, social prejudice etc. Since schools are places that play a vital role in shaping the future of a child and are one of the main contributors to their well-being, it is important to develop awareness, knowledge and a positive thought process in general regarding inclusiveness. education in Indian society. Lack of awareness remains a problem for the failures in the implementation process but there are factors apart from lack of awareness which are causing a greater trouble in the process of universalizing education system in India. It becomes utmost necessary to analyse the barriers to understand the reason for choosing special schools over the mainstream ones or what are the factors that are keeping the children with intellectual disabilities deprived of their right to inclusive education. For a long time, the children with disabilities have been segregated and kept deprived of their right. In the present era where right to education is an essential component of right to life, these children should get equal opportunities and rights and inclusive education is one of those first steps towards lifting the barriers of segregation of the children with disabilities from the mainstream education system.

### **Conflict of Interest Statement**

The authors declare no conflicts of interests.

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