

# Remediating Learners with Learning Challenges Resulting from Obvious Physiologically –Influenced Special Needs in the Regular Classroom Setting

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## Abstract

Learning as a dynamic task requires the synergy of various factors in order for the learner to benefit from the instruction being passed. Several factors could however impede on the successful transmission of ideas, as well as effective learning, among which is the learner's innate ability, learning style, cultural background and emotional status. Also, an important factor affecting learning is the learner's physiological makeup - some conditions that at times could present as a special need area and would require effective management for adequate learning to transpire. The author examined how learners with physiological peculiarities could be helped to learn appropriately in the classroom setting, and their learning problems ameliorated.

**Keywords:** classroom, learner, learning, special needs

## 1. Introduction

Learners whose skills, mastery and academic achievement fall below expectation for their age, level of exposure and/ or experience as well as intellectual potentials, may be classified as the individuals with learning difficulties in any classroom setting. Such individuals always experience difficulties with their learning or acquisition of relevant required for satisfactory academic attainment. Such difficulties are not peculiar to any level of learning and age bracket. It cuts across all level of learning and all ages ranging from pre-primary to tertiary (higher) education as well as from school-age to adulthood. These learning difficulties may arise as a result of one or more of the following: developmental delays such as speech and language difficulties, hearing difficulties, visual difficulties; poor coordination (poor or faulty motor skills); emotional difficulties and trauma; limited environmental experiences; lack of appropriate educational opportunities; interrupted school calendar; family problems and parental neglect/ ignorance; and health related issues.

It has been reported that 10-16% of children and students exhibit difficulties in academic and developmental skills (Lovden, Chan, Elkins, Greavens, House, Milton & Van Kraeyenord, 2000). Most learners observed having learning difficulties due to some of the obvious physiological related challenges, most especially communication and visual special needs do experience one or more of these conditions: visual perception difficulties; communication difficulties (difficulty with oral or written language); difficulty copying from board; misreading words and numbers, losing place, difficulties retaining information over time; auditory perception difficulties; difficulty in identifying and discriminating sounds; slowness in writing, and problems with motor skills and difficulty with letter formation and appropriateness of letters. In case a child experiences any of the aforementioned problems, the academic performance of such a child will become impaired as the condition will manifest impact on learning in a number of ways. Therefore, such individual will need early intervention learning difficulties strategic plan and rehabilitative programme.

Most often, learners with learning difficulties in the regular classroom setting, which is predominantly dominated by the learners without any kind of visible disabilities; are always being neglected and deprived from having maximum benefit from such learning environment. In the regular school setting, specialized form of teaching-learning and equipment as well as methods are not being utilized. Therefore, any individual with learning difficulties would not be discovered, classified or catered for appropriately; rather such individual would be labeled derogatory. This in effect makes teaching and learning in the regular classroom setting unattractive and hostile to individuals with learning difficulties. A learner with learning difficulties in the regular school setting could still perform exceptionally better and well in school environment with specialized methods and equipment (where principles of Special Education is being practiced), where there is no proper consideration of individuals' strength and weakness as well as the practice of Individualized Educational Plan (IEP) being emphasized or considered worthwhile. Here, effort will be geared towards addressing how learners with communication, and those with visual problems in the regular classroom setting.

Learners with communication (speech or hearing) and/ or visual difficulties are the mostly affected categories of learners in such environment-where there is no specialized teaching methods and materials to meet the needs of

persons with Special needs. Learners with communication difficulties are the individuals (students) with varied challenges in the utilization of speech and/or hearing organs towards effective, maximum and successful processing of linguistic profiles through audition. Individuals with communication difficulties always perform at a poor or insufficient academic level, struggle with reading, have difficulty understanding and expressing language, misunderstanding social cues, avoid attending school, show poor judgment and have difficulty with tests (ASHA, 2012). These categories of students would need psycho-acoustical test of auditory sensation and perception as well as capability to make use of speech for intended purpose and needs. On the other hand, students with visual difficulties have fewer natural learning experiences due to the fact that they are unable to observe objects and interactions. Most of the time, individuals with visual impairment differently always manifest poor contest developmental and interpersonal communication skills; negative orientation and mobility skills; as well as academic development (Carney, Engbertson, Scammek, & Sheppard, 2003). Students with visual impairment can be regarded as persons with blindness or partially sightedness based on visual acuity tests. While, students with hearing impairment might be classified as persons with total or partial loss of hearing depending on the outcome of hearing assessment (measurements).

The impairment can be congenital, or even acquired as a result of illness or an accident. As well, methods of assessing categories of students who have been identified as having visual or hearing impairments depend on the individual capabilities or needs. Through assessment mechanism, the remediating process of any student discovers with learning difficulties in classroom would begin with structured plans and referrals; getting professionals and special services which will assist in the educational (or even vocational) placement, performance and development. With this, students, with learning difficulties might need to receive instructional services in the general education classroom or in the resource room, based on individual needs. To this end, Eniola (2005) concludes that teachers would know what kind of adaptations to make in the classroom, such as in room arrangement, equipment placement, or getting arrangements so as to accommodate students with special needs. Also, it will help the class teachers or other instructors to know what kind of instructional modifications to make, such as dictating overhead notes, writing on the chalkboard or speaking in complete sentences.

To ensure success among students with visual and hearing impairments in the classroom setting, such environment must be structured to suit their peculiar needs and basic services as well as essentially required equipment must be put in place to ensure maximum benefit. Thus, this paper considers several methods of remediating the aforementioned categories of special learners in the regular classroom setting, as follows.

## **2. Learners with Communication Difficulties**

Identification and rehabilitation of students with hearing and speech impairment remain imperative in the overall goal of helping students with communication disorders in the schools to achieve language and literacy competence. Children with communication disorders always perform at a poor or insufficient academic level. They always struggle with reading, having regular difficulty understanding and expressing language, misunderstanding social cues, avoid attending school, showing poor judgment and having difficulty with tests (ASHA, 2005). Most times, they express difficulty in learning to listen, speak, read, or write as the problem always occur in the production, comprehension, and awareness of language at the sound, syllable, word, sentence and formation. Therefore, it is important to identify the students with hearing impairment as early as possible; otherwise they will be missing out on important educational experiences (Pagliano, 2012). These will in turn manifest in difficulties understanding the word and in expressing personal needs, resulting in limited interactions and social isolation. Assessment and treatment of students' communication problems involve cooperative efforts of many professionals which include: audiologists, speech/language pathologists, otologists, psychologists, special education teacher, classroom teachers etc. Hence the possible-signs and/or symptoms of hearing impairment include: turning head to position ear in the direction of the speaker, using loud voice when speaking, difficulty in following instructions, giving incorrect answers to questions, intently watching faces of the speaker during conversation or teaching, being distracted easily by visual or auditory stimuli, and asking for information to be repeated frequently. Playing alone rather than with a group, withdrawing from social activities and play or being responsible in quiet conditions, showing difficulty listening to information whenever there is no situational or speaker clues, frequent popping of ear, and delay or absence of speech and language development (Pagliano, 2012).

Communication difficulties can create challenges of a personal, academic and social nature for students, and at the same time interfere or deprive them from reaching their full potentials. For instance, if the difficult is not detected or treated, it can cause permanent loss of hearing or poor expressive and receptive for speech/language, and the long term effects on the quality of life would be seriously impaired.

## *2.1 Consideration of Audiologic Rehabilitation*

Audiologic assessment is designed to evaluate and determine communication status: strength and weakness of persons who might likely have auditory or speech/language disorders (even both) that may interfere with their education, social, health and psychological development cum wellbeing. Audiologic assessment is conducted to quantify and qualify by site of lesion, peripheral hearing loss on the basis of perceptual, physiological or electrophysiologic responses to acoustic stimuli. Also, it is conducted to identify individuals of allergies with conditions that place them at risk for hearing loss or speech problems. Communication (hearing and speech) evaluation is conducted in a clinical or natural environment conducive to obtaining reliable and valid results.

### *2.1.1 Audiologic Assessment*

The essence of audiologic assessment is meant to evaluate and describe the communication needs and skills of any individual with communication disorder(s). Audiologic assessment is designed towards determination of needs, selection and fitting of personal and classroom amplifications, as well as hearing assistance technologies and determination of the effectiveness of such devices (Martin & Clark, 2012).

### *2.1.2 Basic Communication Assessment*

Pure-Tone Audiometry (PTA) which is the Air-conduction and Bone-conduction Pure-Tone threshold measures with appropriate masking towards accurate and reliable test outcome. Speech Audiometry which measures and determines threshold for speech and ability to perceive spoken words. Tympanometry and Reflexometry, which are structured to determine the flow of acoustic energy within the middle ear apparatus. Auditory Evoked Potentials, which is designed to evaluate hearing mechanism when traditional audiometry cannot be employed, and Evoked Otoacoustic Emissions, which is structured to determine the functional ability of both the cochlear and retro cochlear apparatus. Word recognition and speech recognition/discrimination measures with appropriate masking. Evaluation and determination of oral, signed or written communication modalities, as well as multimodal communication trials based on Auditory, Visual and Tactile communication assessment strategies.

Assessment of production and comprehension of language in oral, signed or written models based on the efficiency of speech and voice potentials. Determination of communication ability via appropriate modalities towards perception of speech and non-speech stimuli in listening and auditory situations. Assessment or additional trials via structured strategies towards pre and post device performance on speech and non-speech tasks.

### *2.1.3 Essential hints on how to help students with communication difficulties*

Once the communication needs of an individual is determined, then comes the process of remediation, which is generally referred to as communication therapy based on the individual needs and condition(s).

The communication therapies include: Aural rehabilitation which is specially designed to improve communication ability of those with hearing loss acquired after the development of spoken language. Aural rehabilitation follows a thorough audiologic evaluation and medical care. It is a specific management/intervention based on the individual needs towards improving communication skills. Aural rehabilitation includes auditory training, speech reading and speech therapy. Auditory training is a kind of rehabilitative programme which starts with the developing of awareness and sensitivity to meaningful acoustic signals and increases to encompass discrimination and perception of speech. The training encourages the use of amplification system. Speech reading is a kind of therapeutic programme which provides avenue for individuals with communication problem by watching the lip and facial expressions of the speaker so as to infer the conveyed messages. This strategy helps them to receive information and messages by associating meaning to the observed cues from the speakers, while speech therapy is a kind of rehabilitative strategy to effectively help individuals with expressive communication difficulty develop good communication ability. Multimodal training communication strategies with emphasis on auditory, visual and tactile therapeutic orientation or re-orientation and rehabilitation. Comprehensive rehabilitation protocols to enhance adequate compensation, restoration and utilization of residual communication abilities and cues to benefit from the communication world. Audiologic rehabilitation, which is the treatment of those with adventitious hearing loss so as to improve communication through hearing aids, hearing therapy, speech reading skills, speech/language therapy, auditory training and manual communication strategies. Aural rehabilitation specially designed to improve communication ability of those with hearing loss acquired after the development of spoken language. Hearing therapy which is usually given to enhance recognition of and intervention for those individuals with poor communication ability. Speech/language therapy which is structured to rehabilitate and orientate any individual with speech and language disorders, and communication methodological strategies specially designed to rehabilitate persons with

communication difficulties via some specialized approaches such as: Auditory-Verbal Approach with emphasis on the use of audition and early amplification with hearing aids, so as to develop spoken, receptive and expressive communication skills, Aural/Oral Method which can also be called multisensory or auditory-global approach with attempt to combine auditory training and speech reading skills in remediating communication disorders, and Cued Speech, which is devised to aid speech reading and speech development as it meant to assist in differentiating among sounds that appear to be same on the lips.

Most often, students with communication problems always experience difficulty in accessing spoken language. Thus, services or remediation strategies to assist them should be provided to integrate students' communicative goals with academic and social goals. This could be done with the use of hearing aids, induction loops, speech trainers or any other audio materials. Hearing Aid is a kind of amplifying system designed to reproduce sounds at intensity levels strong enough to be useful to the individuals with hearing impairment. This aid is to make speech intelligible and deliver the sounds loud enough to be heard easily without discomfort by stimulating the auditory nerve in a pattern as near normal as possible (Bakare, 1991).

Induction Loop is a kind of audiocoil or a continuous wire surrounding a room or listening area that radiates a magnet field as electric energy with mechanism to induce induction coil of hearing aid (Martin & Clark, 2012). Speech Trainers is a kind of speech and hearing enhancement equipment and protocol which involves providing additional attenuation to allow the output attenuators to adjust the sound output to each ear in improved models.

### **3. Learners with Visual Impairment in the Classroom**

Visual impairment/difficulty indefinitely needs attention in the classroom because of the following impacts: Socially, students with visual impairment have limitations in interacting with the environment, as they cannot see the facial expressions of parents and teachers; cannot perceive social behaviours; and sometimes, are unaware of the presence of others unless a sound is made (Celeste, 2002). Psychologically, low vision has consequences that often lead students to become confused, fearful, anxious and depressed. Also denial, withdrawal and autism are common psychological problems that restrict the students from being socially as well as educationally integrated (Sharma, Sigafoos & Carroll, 2006). According to Corn, Wall, Jose, Bell, Wilcox & Perez (2002), in the educational environment; the major challenge facing the students with visual impairment is the overwhelming mass of the visual materials to which they are continually exposed. Low vision has a wide-ranging impact on the lives of students, which should be accurately assessed and managed to lessen subsequent disability and handicap that limit the integration of the patients with visual impairment into many of the daily life activities. Vision rehabilitation strategy is a multidisciplinary approach involving many services (Lovie-Kitchin, Devereaux, Wells & Sculpter, 2001). Most of the causes of blindness and low vision are preventable, so screening of preschool and school children is very important to diagnose and manage any ocular pathology which may cause visual impairment, and to allow early implementation of vision rehabilitation programmes, which will help minimize the impact of visual impairment and maximize the efficacy of low vision aids (Donaldson, Karas, Charles & Adams, 2002).

#### *3.1 Assessment and Therapeutic Modalities for the Students with Visual Impairment*

The first step in designing therapeutic modalities for any child with visual difficulties is assessment of the level of visual performance of such an individual. If a pupil exhibits one or more of the following signs, it may be possible that he is presenting with some form of visual impairment: if he holds his reading material too close or too far, is sensitive to bright light, shuts or covers one eye constantly, squints, blinks or frowns when doing close work, complains of pains, itching or aches in the eyes, tilts or thrusts his head forward, or rubs his eyes excessively. Further characteristics includes complains of blurred or double vision or flashing lights, confusing letters of similar shape, reversals of letters, syllables or words, may become clumsy, falling over objects or bumping into obstacles which previously had not presented difficulties, and recurring inflammation, discharge or other eye problems (Educational Service for Hearing and Vision- ESHV, 2012). It is imperative to subject any student observed with aforementioned characteristics to a comprehensive diagnosis, in order to determine their visual status and acuity. Eye health and visual states evaluation should be done thoroughly as this is pivotal in the education of any individual with visual impairment. It is after the nature of visual impairment has been known that such individual would be placed appropriately, with the process requiring teamwork of professionals (Eniola, 2005). Visual Impairment could be determined or identified through the use of Snellen Eye Chart, with the expectation that any individual with normal vision should be able to see letters imprinted on the chart clearly at a distance of about 6 meters from the chart. Other assessment facilities include Massachusetts Vision Tests,

Muscle Balance Test, Lens (optical) Test and Ophthalmological Test. All these tests could be used to determine the visual acuity of the students.

### *3.2 Effective Ways of Helping Students with Visual Impairment in Classroom Setting*

Students with learning difficulties due to visual impairments are constantly challenged by classroom instructional strategies. Most of them can conveniently listen to lectures and discussions, but can be difficult for some of them to access class facilities and materials, textbooks, chalkboard, written examinations questions, demonstrations, library materials and films. Therefore, it is paramount to consider strategies towards remediating these categories of students' maximum benefit. The strategies include: classroom management- students who are sensitive to bright light should be allowed to choose a place well away from direct glare and to move to whenever the light changes. In essence, the classroom should be arranged or managed in such a way to revolve around the needs of every individual in an integrated manner. These categories of students need preferential treatment, since they depend largely on listening and same anonymity as other students. Many of them may need to hold reading materials close to their face and should be provided with an adjustable desk top. Some of these students might need additional provision of specific task lighting such as an angle pose lamp or tinted lenses to reduce the shining effect of those brightly polished or reflective materials and books. After careful assessment of the student's vision might have been identified, then the movement and working position within the classroom must be given careful consideration so as to enable the student benefit maximally. In fact, such student (be it new or stale) must be oriented properly so as to provide him with the access to operate even with the challenges. Since many students with visual impairment will be unable to see the blackboard unless they are allowed to sit close to it or approach it in an obtrusive manner, therefore; when the blackboard is used for diagrams or note-taking, it may be necessary for an alternative to be provided. More importantly, students with visual impairment should be orientated to the physical layout of the room with locations of steps landmarks, furniture, lecture position, low-hanging objects and other structures within and outside classroom setting that can hinder smooth movement.

For a hitch-free atmosphere, it is necessary for teachers of students with visual impairment to seek guidance from a specialist support teacher regarding how to help the student gain the appropriate mobility and orientation skills. These skills need to be taught if he is to move safely and independently around the school environment and then extend to travel within the locality and beyond. Also, school having students with visual impairment must try to ensure that corridors and stairways are well illuminated, explore the possibility, through the class teacher, of the school implementing a "keep to the left" rule for movement around the school, enquire whether any changes in levels could be marked to provide enhanced visual feedback; perhaps for example using painted bright yellow lines, and emphasize the importance to other staff of reducing unnecessary hazards around the school e.g. electric cables trailing across the floor doors left ajar, windows or cupboard doors left open at head height etc. As a general rule, visual displays should be bold, clear, well contrasted and as near to eye level as possible. Tactual displays or those involving Braille should be lower, to facilitate comfortable tactual exploration. If demonstrating to the child, the teacher should avoid standing with his/her back to the window, as glare and light may well silhouette the demonstration. A student with visual impairment would need to be encouraged to be tidy and methodical during desk-based activities. This will not only help him/her to find his equipment with ease and expediency, but may provide him with the extra storage space he requires for his specialist equipment. A Braille user will particularly need a large storage area to keep both the materials and equipment.

Besides size of print, it is important to consider the quality and quantity of print used. The size, colour and contrast of print on paper determine quality and should be the primary consideration. Print can be enlarged by some form of magnification using a low vision aid, or by an enlarging photocopier but it can be counterproductive to enlarge poor quality copies as the faults are also magnified. It is also the responsibility of the teacher to always ensure that the child with visual impairment has the sole use of work materials, whether it be books, diagrams, maps etc, avoiding the need to share. He will also need extra time to complete visually demanding tasks and it may even be necessary to reduce the amount of reading/writing to be realistically expected in the same time as the other pupils. A student with visual impairment should also have free access to any Low Vision Aid (LVA) which will improve his functional vision. SLVAs include hand-held or stand magnifiers, illuminated magnifiers, binoculars and hand-held telescopes, spectacles; including those with specially prescribed telescopic attachments and Closed Circuit Television (CCTV) which is available in black/white and colour models. The CCTVs electronically enlarges material onto a TV screen and most models can flow/ accommodate a typewriter. The type of equipment used obviously would depend on the nature and severity of the child's visual impairment. However other equipment which may be used could include one of or



several of Perkins Braille for those unable to communicate through print, tape-recorder (perhaps with a variable speech attachment or speed compressor so that listening rate can be speed up), talking calculator, talking thermometer, Braille ruler, large print typewriter, to name a few.

Students with visual difficulties should be given access to a mainstream curriculum as this would be in the normal classroom setting working alongside fully sighted peers. Every opportunity should be afforded to such children to participate as fully as possible in the life of the school. Preference should be placed on these four areas of reading, writing, physical education and specialized curriculum areas for maximum benefits. Students with visual impairment still need intensive help in acquiring reading skills. Fully sighted children are able to see a clear and well defined image of the letter or word they are reading, but this is denied to an individual with impaired vision. Regular, consistent, concentrated practice with carefully chosen material is essential. The student with visual impairment will take longer to master reading skills, but given the correct level of support, he will eventually acquire a standard of reading commensurate with his age and ability. He should be allowed to hold his book at a distance or at an angle which he himself feels is the most comfortable. An adjustable sloping desk top and extra lighting may also prove effective, but the pupil should be allowed to reject these if he does not feel they are helpful. Careful consideration should be given to the type of writing instruments used by student with visual impairment. Again, the student should be allowed to use whatever he feels most comfortable with whether it be thick pencil, felt tipped pens or heavy ball points. Unlined paper, wide lines or specially printed thickened and darkened lines can be usefully tried where normal-lined paper presents difficulties. Practice in tracing the correct movement to produce the letter shape on a sand tray with a paint brush or thick chalk on a blackboard may all be useful. Cursive writing may need to be delayed until the student is completely confident with the use of un-joined script. Consideration should be given by the teacher in this respect however, in order that student with visual impairment does not feel isolated from his sighted peers. Children with visual impairment should be allowed to participate in the physical education programme as far as possible where the activity is unstructured. The student can usually take part without difficulty but there are likely to be some considerable disadvantages in many small ball games since the necessary hand/eye coordination may not be present. The wearing of spectacles and participation on contact sports are not usually compatible but teachers should consider whether the advantage of wearing the spectacles outweighs the normal safety considerations- it is not an easy decision however. Where student's eye condition dictates an absolute need to opt out e.g. detached retina, an alternative activity should be provided in which he's not degraded and which carries prestige with it. Fostering a student's sense of achievement will work wonders for his own self-esteem. Due to their visual impairment, many children will need to develop skills not necessarily required by their fully sighted peers. For appropriate remediation to be provided, again the peripatetic support teacher would be consulted at all times. Such specialized skills could include emphasis being placed on listening skills, typing skills, Braille, mobility and orientation skills, visual-motor and visual-perceptual skills, (ensuring the child makes the most effective use of the vision he possesses by concentrating on activities such as matching, discriminating, hand-eye coordination, tracking, scanning, copying, fine and gross motor activities etc), and independence and self help skills.

## 5. Conclusion

Students with learning difficulties consequent upon visual impairment and/or hearing impairment should not be deprived of their right to access and get maximum benefit from educational services available. These categories of students should be encouraged to acquire the required skills and knowledge in ensuring their relevance in all spheres of human endeavour. Such students should be allowed to access special educational services which will assist in their educational performance and development. Although, they may receive the required services in the regular setting, with resource room or itinerant resource personnel and varied teaching strategies based on individual needs and capacity; the classroom teachers should be made to determine the required adaptations in the classroom to suit the individual peculiarity. The adaptations may include room arrangement, equipment placement, seating arrangements and instructional modifications in accordance with the students' special needs. Services to students with learning difficulties in any classroom setting should be provided in individual or small group sessions, or in consultative models with teachers and family of such students for better follow-up.

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