Training Module on
Hearing Impairment

शिक्षा का अधिकार

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

Sarva Shiksha Abhiyan

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Introduction

Education for All is a universal dream. All the modern nations are trying their best to actualize this dream. Special attention is being provided to conventional known weaker links in the chain of education, self reliance, prosperity and development. These 'marginalized' groups which were untouched by education until very recently are now entering the mainstream education. We need to make our **system more accommodative**, **flexible and warm**, so that these groups not only enter the conventional classrooms but also make these classrooms more colorful and rich. Changes are being made towards this purpose. New ideas, modern technology and broad minded philosophy are being passed down from international to national level from national to state level and from state level to schools. One of these extremely useful new ideas is 'inclusive education' and **you are the best link** of this relay of ideas which actually provides services to children with diverse background. In this sense you are the most important agent of change. Upon your shoulder lies the success of these seemingly theoretical ideas like inclusion; neighborhood school; and free, compulsory, appropriate education. Efforts must be concentrated on empowering you the resource teachers to make education work for ALL.

Diversity is not a new reality to India and we Indians do not need any lessons on it since we have been living with it happily. However, we definitely need to operationally define diversity with a broader view. We readily acknowledge diversity linked with religion, language, culture, geographical or economical background. However, **diversity created by abilities and disabilities** is not very well taken care of. Conventional mindset of looking at disability as curse or 'end of the road' is quite wide spread. This hampers our 'ability' to look at disability as one of the diversities. If you resource teachers can take this positive perspective to families and schools much can be achieved.

Among the disabilities, hearing disability has a unique situation which may make the **inclusion process slower and difficult**. With other disabilities, in general, language and communication are not the primary concerns. With individuals with hearing impairment, this is not the case. Inadequate language and communication have the potential to negatively impact almost all developmental aspects of a child. Moreover, if not dealt with carefully, hearing impairment may delink the child not only from the society but also from the family. You yourself can think of the

serious concerns created by such a situation. However, thankfully this CAN be avoided and hence MUST be avoided. AND YOU HAVE A MAJOR ROLE TO PLAY HERE!

Hearing impairment of a child should **not turn into hearing handicap** because he/she did not get adequate support from family, school or from community. Who can prevent hearing impairment (physical reality) turning into handicap (personal, social and functional restriction)? You are one of the team members who can do it. You are already empowered to do it since you have your degree / diploma in special education. However, during your earlier course your focus was on one of the disabilities and now you have to deal with all the disabilities. You need to know little more, you need to learn little more. This training module and material intends to empower you with these additional **skills and knowledge**. Also, most of the syllabi in special education today equip trainees to teach in a special school. Now you have to work with mainstream schools and deal with school authorities, colleagues, families, students who are not aware of the disability issues. You have to be the **leader in disability advocacy** and make things happen for the students with special needs in your school. This module is designed to help you do this.

The module is classified into three types of activities. Theory, practical and hands on practice. The section on **theory** (PART A) brushes up primary issues about hearing disability like types, causes and identification. It also touches upon complex yet very important concepts like functional assessment and communication concerns of the children with hearing impairment.

The second part of the module (PART B) is **skill oriented** wherein you are expected to understand little theoretical background of each aspect to be able to learn the skills related to that information. This will help you gain confidence while dealing with a student with hearing impairment. This section will help you turn theory into desirable practice. You will learn many important skills related to TLM, IEP, communication, curriculum adaptations, need management etc.

It is said that however much you know your theory; you will understand some things only when you see or do them yourself. For example, there is no other way of learning to swim but to get into water and move your limbs. With disability management and education also there are some things which you will learn only through first hand experience. The third part (PART C) deals with these issues and intends to give your **hands on experience** with some of the skills. The major focus in this section is development of speech, language and social skills.

As an outcome of the learning of all the three parts you become professionally ready to manage a child with hearing impairment in a mainstream school. But please do not consider that the learning is over when you master this module. There is much more to hearing impairment than the few concerns discussed in this module. The environment you will be placed in, the families you bump into, the students you are made in charge of and your colleagues who are classroom teachers

may not **respond to disability** the way you would want them to. Achieving the goal of sustained educational development may appear simple for some students; difficult with a few others and almost impossible with some. Remember, positive thinking, taking initiative in bringing about change and involving others in your mission will be your keys to success. If this module prepares you to believe in it and be confident while taking right decisions, appropriate actions and out of box steps towards inclusive education, the purpose of this module will have been served.

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Objectives

Knowledge related objectives

After learning this module the resource teachers will be able to:

- Present basic summary about key issues related to hearing impairment including definition, kinds, causes, preventions, identification and assessment.

- Help sort out basic doubts of families and other classroom teachers in this connection.

- Monitor best curricular practices in the mainstream school based on this knowledge.

- Be bale to use this basic knowledge to read / get more information as and when necessary.

Skill related objectives

After learning this module the resource teachers will be able to:

- Explain the audiogram and its interpretation to families and other classroom teachers,

- Monitor the functioning of individual and group amplification systems,

- Describe and clear doubts about curricular adaptations required and not required by each of the students with hearing impairment under her / his supervision,

- Demonstrate examples of appropriate teaching learning material,

- Suggest to families, teachers and school authorities the appropriate tips / steps to facilitate communication, language and social development of students with hearing impairment,

- Prepare individualized plans and monitor their implementation.

Attitude related objectives

After learning this module the resource teacher will be able to:

- Identify strengths and weaknesses of each of the students realistically,

- Explain how positive thinking and appropriate action lead to success,

- Suggest novel, workable solutions to deal with various barriers in education,

- Describe her / his small yet significant role in the larger picture of Education For All.

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Course Structure

Theory Part A

Candidates are expected to submit 3 assignments. 1 compulsory assignment given by the supervisor and any two of the candidate's choice form 'things worth trying'.

Chapter No.	Mode of Learning	Remark
1	Self learning by candidates and doubt solving by supervisors	
2	Self learning by candidates and doubt solving by supervisors	Class presentation by candidates can be arranged
3	Lecture and discussion	
4	Lecture and discussion	
5	Lecture and discussion	Class presentation by candidates can be arranged
6	Self reading	
7	Detail description with examples	Reference reading recommended
8	Detail description with examples	Reference reading recommended

Practical Part B

Supervisors explain the content first then discuss the practical activity. Optional practical activities are carried out independently. Compulsory practical activities are carried out under the supervision of the supervisor. Reports to be submitted for both.

#	Compulsory Activities	Optional Activities (any 3)
1	B2, B3	B1, B4, B5
2	-	B6
3	B11	B9, B10
4	B13, B14	B12
5	B15	B16
6	B18	B17
7	B19	B20, B21
8	B22, B23	-
9	B24	B25
10	B28	B26, B27
11	B29, B30	B31
12	B33	B32
13	B34, B35	

Hands On Practical Part C

Activity C1 is compulsory. Any 3 from the remaining activities from C2 to C17

Key Issues and Basic Concepts

Introduction to Hearing Impairment

Prashnakumari is a hardworking, happy and smart student studying in IIIrd standard. Whether in her School, in her school bus, at home or in her housing society she is popular everywhere. There is only one problem with her which no one knows how to deal with. Prashnakumari has too many questions in her mind which she keeps asking everyone. No medicine, no counselor, no therapy is helping her get rid of this disease called 'questionomania'!

This June when Prashnakumari entered IVth standard a strange thing happened in her class. A strange boy got enrolled in her class. He wore a strange machine and spoke in a strange way. How strange! Roshan teacher introduced this new boy to the class; his name was 'dost'. What a strange name! Dost has hearing loss. What a strange thing to have!

Obviously, Prashnakumari had 239 questions in her mind. She asked a few out of these to Roshan teacher. Roshan teacher is doing some amount of reading, asking doubts to Dost's parents and discussing with earlier teachers so that she can answer Prashnakumari's questions. Roshan teacher has found the answers of at least a few questions. Here are those, in case there is a 'dost' and a 'Prashnakumari' in your class!

The minute Roshan teacher said Dost has 'hearing impairment', Prashnakumari came up with her first question.

"What is hearing impairment?"
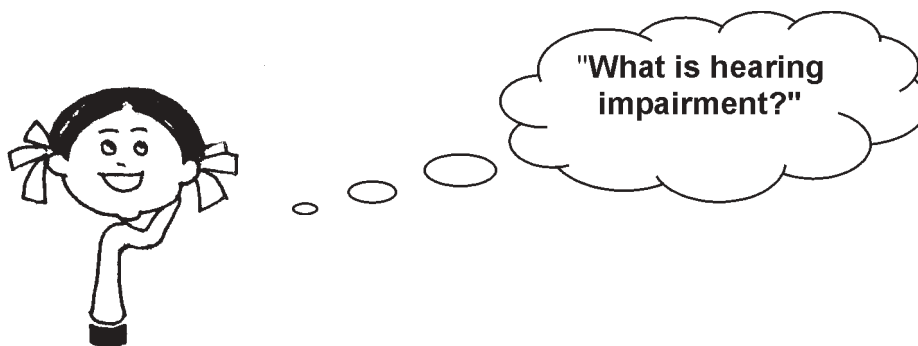
A human being is like a non-stop machine that produces thoughts, language, ideas, feelings, opinions views etc. The intelligence of the person is like the electric current required for this machine to go on. What is the raw material consumed by this machine? It has five inlets which are the gateways of inserting raw material (knowledge). Yes, these are our five sensory organs. Information, data, experiences are constantly fed to this machine called a human being through the five inlets. Two of the important inlets are hearing and vision.

Hearing impairment simply means - inability of someone to hear as completely and as adequately as normal hearing people. Since those who can hear, hear 24 x 7 x 365, they take hearing for granted. Actually hearing is extremely important. Hearing:

■ Keeps people aware of signals and sounds which may ensure our safety and security;

■ Constantly provides the people with information about the surroundings;

■ Helps people acquire language;

■ Gives people pleasure and artistic satisfaction;

■ Keeps people linked with each others.

Hearing is so much a part and parcel of living that those who can hear cannot think of life without hearing. Hearing is an automatic process which can be done simultaneously with other several activities. MIND YOUR CONCLUSION! This does not mean that those who cannot hear, cannot do (or do not do) things mentioned above. Individuals with hearing impairment can do all the activities given above but they may do it DIFFERENTLY.

To understand hearing impairment clearly we must understand a few points. First and foremost, one must understand that the population of individuals with hearing impairment is highly heterogeneous. This means that the functioning levels of the individuals with hearing impairment can be very different from each other. You may meet a child with hearing impairment who is managing verbal communication very well with you. The next child you meet may not be able either to talk fluently or even read, write adequately. Children with hearing impairment in general CAN DO almost everything that non-impaired children can do. But what actually each child DOES (and does not do) in reality depends on many factors. Due to these factors and the role they play on the functioning of the child, it is difficult to predict what a particular child with hearing impairment can do and cannot do. Let us see these factors which impact the functioning of the child:

■ Hearing impairment can be by birth, acquired pre lingually, acquired post lingually, or acquired due to ageing.

■ Hearing impairment can be in one ear or can be in both the ears.

■ Hearing impairment can be of various degrees like mild, moderate, severe, and profound.

- Hearing impairment can be reversible (medically / surgically treated) or it can be irreversible (medically untreatable).

- Hearing impairment can be temporary or it can be permanent.

- Hearing impairment can co-exist with other disabilities / medical concerns.

What a particular child can do and cannot do depends on the above given factors. Achievements of a child also depend on several other factors. Equally important or even more important are these factors related to environment of child. These factors are:

- Whether the child got access to communication either through sign language or through hearing aids;

- Whether the child has got this access to communication at an early age or not;

- Whether the hearing aid benefits the child optimally or not;

- Whether the child is blessed with family support or not;

- Whether the child got timely and early childhood intervention or not

- Whether the child has any other disability / medical concern;

- Whether the child got the enrollment into an appropriate school or not; etc.

These are just a few sample factors listed for your overall understanding. Many more clinical and environmental factors play an interactive and influential role in deciding the current and the future level of functioning of that particular child. Due to these complex interactions among a large number of factors, the population of individuals with hearing impairment becomes heterogeneous. And the prognosis (outcome of intervention) becomes unpredictable.

How is this heterogeneity relevant to you as a resource teacher? Why do you need know about it?

If you are aware of this heterogeneity, you will not assume a particular level of functioning when dealing with a student with hearing impairment. This will encourage you to prepare case profile of each child separately and periodically. This knowledge about heterogeneity will also help you avoid under-estimation or over-estimation of the students' performance.

A few frequently asked questions:

(1)   What is the incidence of hearing impairment?

As per NSSO 2002 reports, there are about 3 million children (age between 0 to 6) in the country. It is estimated that about 0.2% of the population have hearing impairment. With this

calculation, we have more than 3 lac children in our country having hearing impairment in that age range. Over 21,000 children are said to be born with deafness every year. One of the other reports says that at least one in 750 Indian children is born hearing impaired.

(2)   Which professionals diagnose hearing loss?

The paramedical professional audiologist is expected to assess, diagnose and certify the hearing loss. Almost all the private / public hospitals having ENT departments have fulltime or visiting audiologists. The ENT issues the certificate of hearing loss after the audiologist carries out the assessment.

(3)   How is hearing loss measured?

Hearing losses are of different types and degrees. We have already seen that the type and the degree are two of the primary determiners of level of functioning of a particular individual. Therefore it is absolutely necessary to know the nature, type and degree of hearing loss before the habilitative, audiological or educational plans are made. Families and mainstream teachers are encouraged to know the details of the hearing loss so that they can set realistic targets.

Various modern, technically advanced instruments and softwares are used to measure hearing loss. These are subjective types or objective types. The most commonly used conventional procedure is pure tone audiometry. In this measurement the individual under testing is expected to indicate whether he/she heard each of the sounds presented to him/her. These sounds are of varying frequencies and intensities. The responses of the individual are plotted on a graph called audiogram.

As a routine, we all need to go through and superficially understand various medical reports. Initially we may not understand the numbers and figures but over the period of time we do start getting the overall impression. An Audiogram is no exception. Teachers and family members soon get familiar with the details, these details are vital for educational planning. Please have a look at the following audiograms of Prashnakumari and Dost. Try to understand the meaning.
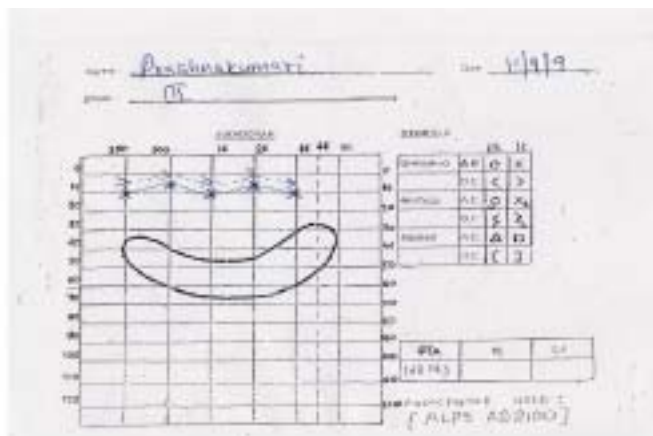
Look at Prashnakumari's audiogram. This is how the audiogram of a normal hearing person looks. Prashnakumari could respond to each of the frequency of the pure tone sound given to her through the headphone. All her responses are present to sounds around 10 dB.

Look at Dost's audiogram now.
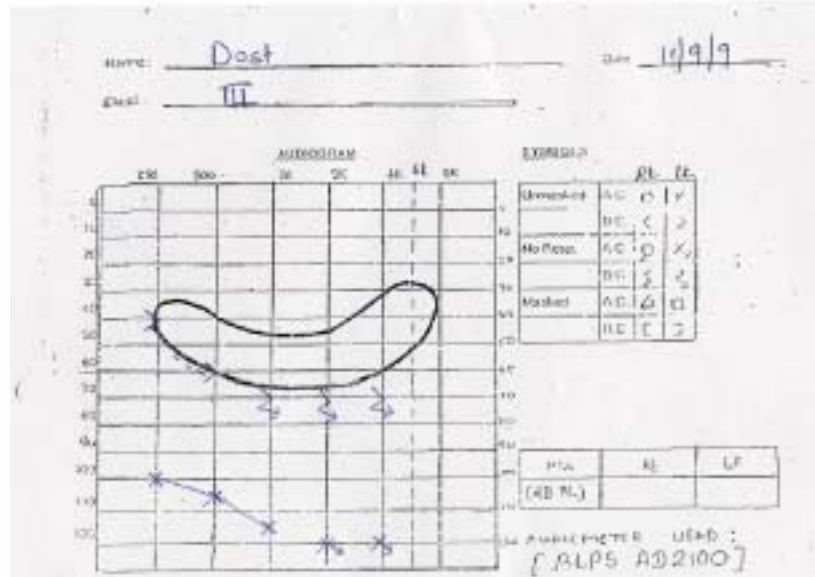
Dost was given pure tones of all intensities at all frequencies. But he could respond to only high intensity (100 dB and above) pure tones. This means Dost can hear only few sounds which are very loud. But how do we know whether he can hear what we say or not. Please note the banana like shape made on the audiogram. It is called a Speech Banana since frequencies and intensities of most of the speech sounds fall in that banana like area. If the child's responses fall in that area, then we can say that the child can hear that many speech sounds. Dost, as you can see, cannot hear any of the speech sounds without the aid. Prashnakumari's responses on the other hand, are much above the speech banana and hence she can hear all the speech sounds and much more. Please note 2 things: The responses of Dost are without a hearing aid. We must also see his responses with appropriate hearing aids. They could fall in the area of speech banana. Such marking of responses with the hearing aid on are called aided audiogram. Secondly, this is a very oversimplified description given for you so that you shed your hesitation to look at an audiogram. The more of audiograms you come across, the better will be your understanding.

How is this understanding an audiogram relevant to you as a resource teacher? Why you should know about an audiogram?

Audiogram interpretation is the first step towards the intervention of a child. Much depends on the child's aided and un aided audiogram. It helps you understand what the child can hear and what the child cannot hear. All the further decision making for the child depends on the answers to these two questions. For the audiologists and speech therapists, the audiogram is the single most important document of the child. You too will need to return to the child's audiogram again and again for many reasons:

- While planning educational objectives;

- While helping parents decide which communication option would work better for the child;

- While helping family select the school;

- While helping the parents plan home stimulation and auditory training;

- While expecting the quality, quantity and speed of speech development.

This in general is the overview of hearing impairment. Many of the things you must have known since the time of your teacher training course. But it is always better to read the basic information again and again since you will have to deal with real life situations in order to facilitate the education of the children with hearing impairment.

Things Worth Trying!

- Prepare a small poster to help families understand the procedure of measurement of hearing loss?

- How will you help families prepare the child for audiometry?

- Prepare a list of places in your area where audiometry is done.

Defining Hearing Impairment

Roshan teacher is a very positive person. She never had a child with hearing impairment in her class. She was little concerned about how to manage this new child. But as Prashankumari kept asking her questions, she kept on looking for answers. She got all the information from the resource teacher, from the parents and also from the internet. Soon she was ready for all the questions that Dost's friends could ask. Surprisingly, it was Dost himself who asked the next question!
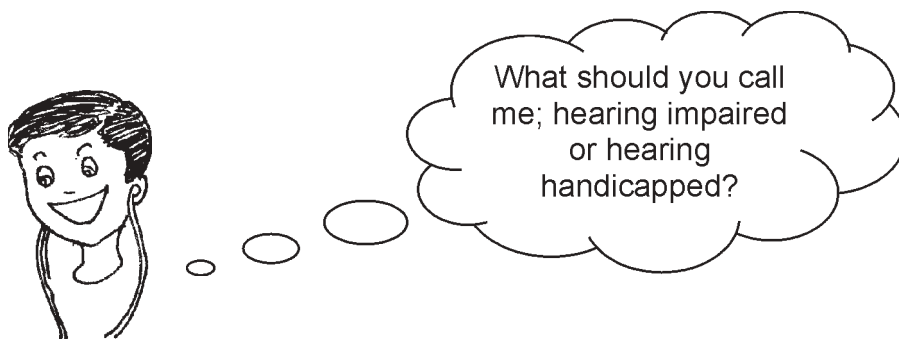
Hearing loss as the word suggests, means loss of hearing. Loss of hearing does not mean a complete loss; it does not mean that a person with hearing loss cannot hear a single sound. The extent of loss may differ from person to person depending on the cause and site of lesion in the

auditory (hearing) system. This description may appear very simple but the issue of hearing loss in a developing child is quite serious, complex and multifaceted. We need to look at it from various points of view.

Definition of Hearing Loss

Hearing impairment is a condition resulting from a structural abnormality (such as a hole in the eardrum) that may or may not produce a functional disability (such as diminished hearing). This however is a theoretical definition. We must see the meaning of a few words carefully. It would be interesting and worthwhile to make a difference between the terms impairment, disability and handicap. Hearing impairment does not necessarily mean hearing handicap.

Impairment is biological / physical loss of an organ for example, a boy not having one arm or a girl having hearing loss.

According to the **WHO** (World Health Organization), *a disability* is "any restriction or lack (resulting from any impairment) of ability to perform an activity in the manner or within the range considered normal for a human being." For example, a boy not being able to participate in a craft class in school or in a rope climbing competition; a girl not being able to read or write age appropriately due to language concerns.

A *handicap* is defined as the "loss or limitation of opportunities to take part in the life of the community on an equal level with others." For example, a boy not getting a job or a girl not getting the opportunity to go for higher education.

Did you notice how impairment in itself is a small beginning which if not intervened early and appropriately turns into a disability? Disability itself is not a major concern, but if not intervened early and appropriately, it turns into a handicap. If we do not want impairment turned into a handicap, we need to have a society which is barrier-free and inclusive. Such a society leads to equal opportunities and protection of rights of persons with disabilities.

As per Persons with Disabilities (Equal opportunities, Protection of Rights and Full Participation) Act, 1995 Hearing impairment: Means loss of sixty decibels or more in the better ear in the conversational range of frequencies.

According to the Census of India, hearing disabled: means all those who cannot hear at all, can hear only loud sounds, cannot hear through one ear but her/his other ear is functioning normally. A person who can hear using hearing aid will not be considered as disabled under this category.

> **How is understanding these concepts and terms relevant to you as a resource teacher? Why do you need to know about it?**

If you are aware of the difference among the three terms you will understand the need for early and immediate intervention. You will know that you should be able to help families accept hearing

loss at the earliest so that much time is not wasted in blame, doctor-shopping or pampering a feeling of guilt. Immediate action should follow the diagnosis. You will also emphasize to the parents that impairment may not be prevented but handicap can be prevented. PLEASE NOTE THAT THIS MANUAL ADDRESSES DOST AND OTHER SUCH CHILDREN AS **SWHI WHICH MEANS STUDENT WITH HEARING IMPAIRMENT.**

In this context, one conceptual clarification about the label 'hearing impairment' is required. While reading / discussing about hearing impairment you must have noticed the use of many terms inconsistently or casually. Let us understand the five frequently used terms with reference to hearing loss. Let us also see the difference among them. This will help you use the label more appropriately.

■ **Deaf and dumb:** It is technically incorrect term which we should avoid and discourage others from using. Children with hearing loss are neither dumb (stupid) nor mute (speechless).

■ **Hearing impaired:** The term hearing impairment indicates hearing loss of all the degrees from mild to moderate. It indicates the biological status of the hearing mechanism.

■ **Deaf:** deafness indicates that the individual has profound congenital irreversible hearing loss. The word deaf is used to refer to individuals who have profound or more hearing loss. Many of the children with hearing loss you come across can be from this category. Many adult individuals with hearing loss prefer to be addressed as 'deaf' since this label avoids words like loss, impairment, handicap etc.

■ **Deaf:** Capital 'D' in deafness means that the deaf individual has a Deaf identity, belongs to Deaf culture and uses sign language for communication.

■ **Hearing handicapped:** This is a term with negative connotations. Use of this term indicates that the physical / biological hearing impairment has severely and negatively impacted the development and / or functioning of that individual. More than loss it indicates restrictions, limitations and incomplete participation.

Thus all the labels, superficially mean the same but there are fine differences in the scope for whom they are used. It will also be relevant to know about 'child first' philosophy of addressing children with hearing losses. Instead of using 'deaf child' it is better to use the term 'child with deafness' since it symbolically indicates that you are looking at the (dealing with) 'child as being a child first' and his /her disability comes later. Thus 'child with hearing impairment' is a more positive term than the usual 'hearing impaired child'. Of course, one must have the positive 'child first' attitude which reflects in his / her action, thinking and decisions. A correct term is a mere indication of that.

It is also relevant at this point to discuss the antonym (opposite) term of hearing impairment / deaf. What is a person who does not have hearing loss called? The commonly used yet academically

incorrect term is 'normal'. The more appropriate terms are 'non impaired', 'non-disabled' or 'normal hearing'. Referring to a child without hearing loss as 'normal' indicates that the child with hearing loss is NOT normal. This is not correct since except for hearing, all the other faculties of the child are 'normal'. As special educators, let us avoid terminology which further reinforces the incorrect mindset of the community.

After looking at the various definitions, one thing we know for sure is that hearing loss may not mean the same for all. What it means for a particular person differs person to person. When describing hearing loss we generally look at two attributes: type of hearing loss and degree of hearing loss. Same is discussed in the forthcoming pages.

Things Worth Trying!

- Ask a few adults with hearing loss about how would they like to be addressed - deaf, Deaf or hearing impaired?

- Prepare a poster describing why is it better to say 'child with hearing impairment' rather than 'hearing impaired child'?

Types of Hearing Loss

Roshan teacher asked Prashnakumari to sit with Dost. She knew that while interacting with Dost, she will find answers to many of her own questions. Observing Dost and the other 4-5 SWHI in the school Prashnakumari soon noticed that they all are different from each others. She asked Dost about it and Dost showed his audiogram to her.

Why are all students with hearing impairment different from one another?
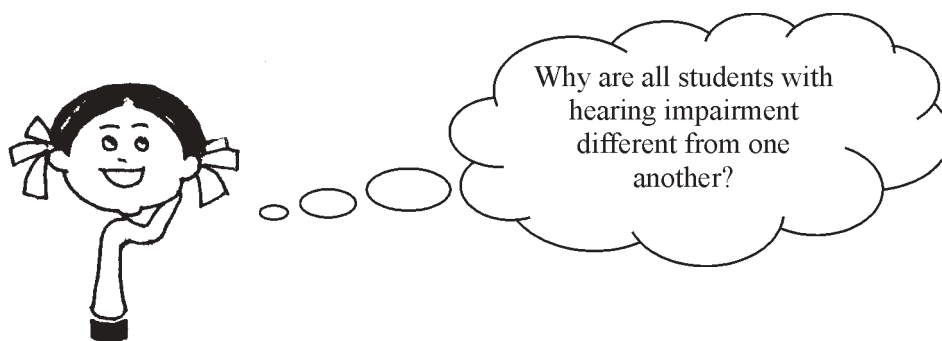
Hearing loss is categorized into different types, depending on where or what part of the auditory system is damaged. Therefore in order to understand the types of hearing loss, we need to understand the parts of the auditory system. Please look at the picture of the ear given ahead.

The auditory system consists of the EAR and the AUDITORY NERVE connecting the ear to the auditory cortex in the brain. The ear consists of 3 parts:

- External ear (outer ear): It consists of the pinna and the ear canal

- Middle ear: It consists of the eardrum and the 3 small bones (ossicles)

- Inner ear: It consists of the cochlea and the semicircular canals.

The auditory nerve transmits information from the ear to the brain.
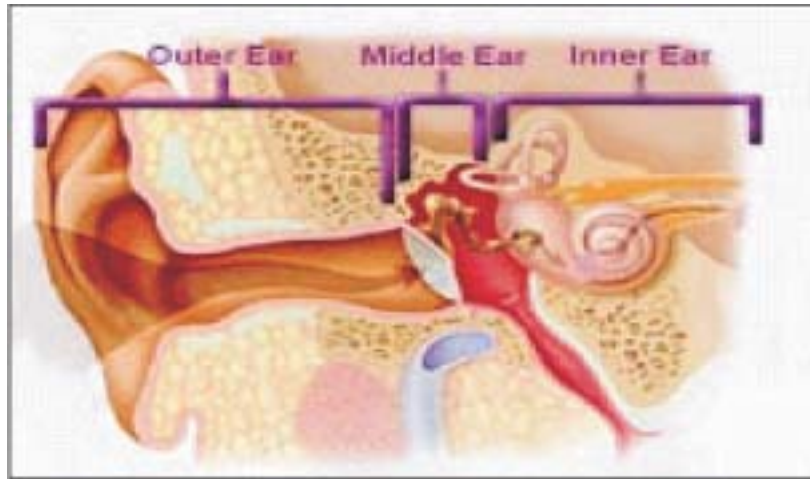
The sound is transmitted from the outer ear to the middle ear and then to the inner ear. The inner ear then transmits the information to the brain through the auditory nerve. Any damage in this pathway results in hearing loss.
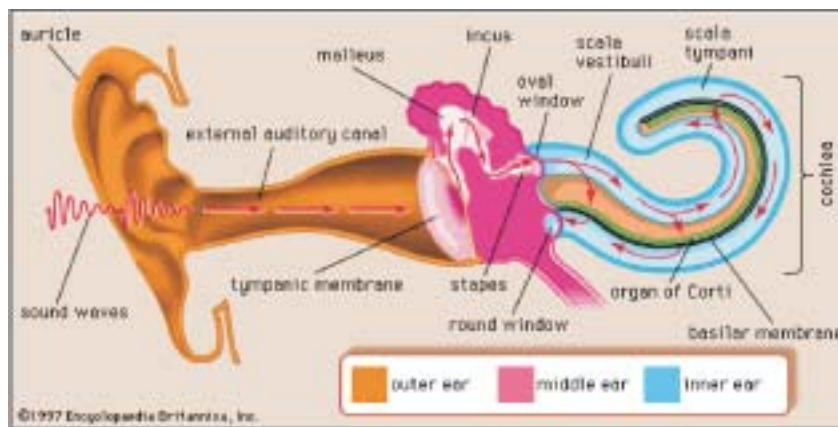
Conductive Hearing Loss: Conductive hearing loss occurs when sound is not conducted efficiently through the outer ear and/ or the middle ear. This means conditions whereby there are any problems in the ear canal, for example wax or foreign body in the ear, and / or any problem in the middle ear, for example, perforation (hole) in the eardrum.

Conductive hearing loss usually involves a reduction in sound level (or the ability to hear faint sounds). This type of hearing loss can often be medically or surgically corrected.

Sensorineural Hearing Loss: Sensorineural hearing loss occurs when there is damage to the inner ear i.e cochlea or the auditory nerve. Sensorineural hearing loss cannot be medically or surgically corrected. It is a permanent loss.

Sensorineural hearing loss not only involves a reduction in sound level, or ability to hear faint sounds, but also affects speech understanding, or ability to hear clearly.

Mixed Hearing Loss: Sometimes a conductive hearing loss occurs in combination with a sensorineural hearing loss. In other words, there may be damage in the outer / middle ear and in the inner ear (cochlea) or auditory nerve. When this occurs, the hearing loss is referred to as a mixed hearing loss.

Degrees of Hearing Loss: It is not only the place of damage, but the extent of damage that is also an important factor to be considered while describing hearing loss. In order to find out the extent of hearing loss, the test commonly used is pure tone audiometry. Pure tone audiometry gives the average hearing threshold (across various speech frequencies) in decibels which is called as PTA (Pure Tone Average). Hearing threshold means the softest level at which the sound is heard.

Hearing impairment is measured in decibels (dB) hearing level (HL). Normal conversation is usually between 45 to 55 dB. A baby crying is around 60 dB and traffic noise can be around 90 dB.

If you can hear sounds between 0 and 25 dB HL most of the time, your hearing is normal or near normal. If you cannot hear sounds in that range and only hear sounds above 25 dB HL, you have a hearing loss. Hearing loss is categorized into various degrees depending on the severity of hearing loss. It ranges from mild to profound.

The following is one of the more commonly used classification systems given by Goodman in 1965:

Table # 1: Degrees of hearing loss

Degree of Hearing Loss	PTA (dBHL)
Normal	0 to 25
Mild	26 to 40
Moderate	41 to 55
Moderately severe	56 to 70
Severe	71 to 90
Profound	91+

Other descriptors associated with hearing loss are:

- **Bilateral versus unilateral:** Bilateral hearing loss means both ears are affected. Unilateral hearing loss means only one ear is affected.

- **Symmetrical versus asymmetrical:** Symmetrical hearing loss means that the degree and configuration of hearing loss are the same in each ear. An asymmetrical hearing loss is one in which the degree and/or configuration of the loss is different for each ear.

- **Progressive hearing loss:** Progressive hearing loss is a hearing loss that becomes increasingly worse over time.

- **Sudden hearing loss:** A sudden hearing loss is one that has an acute or rapid onset and therefore occurs quickly, requiring immediate medical attention to determine its cause and treatment.

- **Fluctuating hearing loss:** Some hearing losses change-sometimes getting better, sometimes getting worse, which is known as fluctuating hearing loss. This may be due to middle ear fluid or infection.

- **Congenital hearing loss:** It means hearing loss is present at birth. It may be hereditary or developed during pregnancy or at the time of birth.

- **Acquired hearing loss:** It means hearing is normal at the time of birth and due to some reasons; hearing loss is developed at a later stage. If this loss is developed during the language learning age i.e. during the first three years of life, it is known as **prelingual hearing loss**, i.e before the development of language. If this loss develops after language has significantly developed in a child, it is known as **post lingual hearing loss.**

How is this understanding of the types and degrees of Hearing Loss relevant to you as a resource teacher? Why do you need to know about it?

Hearing loss has a direct effect on speech and language development of a child. The effect will vary depending on the type, degree and onset of hearing loss. Milder the hearing loss lesser is the effect. Whether the hearing loss is in one ear or both ears also makes a difference. Similarly if the hearing loss is acquired, the child is at an advantage as compared to the child with a congenital (at birth) hearing loss. It is not only the degree and onset but the time of intervention also makes a big difference. Early detection and early intervention reduces the impact to a large extent. If you understand this well you will not generalize the strengths or weaknesses of the SWHI. You will realize that since their audiograms are so different; their needs and levels of functioning have to be different.

Things Worth Trying!

- Make a table of various types and degrees for explaining the impact of hearing loss to the parents.

- Read some material on how does the speech of a child with mild hearing loss differs from that of one with profound hearing loss?

Causes and Prevention of Hearing Impairment

Prashnakumari and Dost started seating on the same bench. Roshan teacher helped Prashnakumari understand how the hearing aid works. She introduced her to Dost's mother. Yes you guessed it right, Prashnakumari had many questions to ask Dost's mother. One of the most important things she wanted to ask was
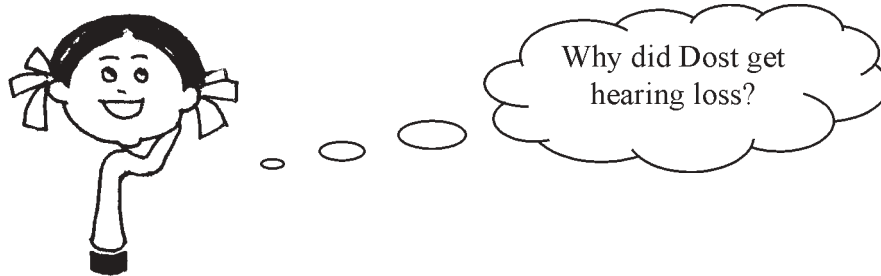
Knowing only the types and degrees of hearing loss is not enough. It is important for us to know the causes of hearing loss so that we can take preventive measures. Yet, you will have to be careful while giving this information to the parents. Many parents of children with disabilities experience guilt and anger about the disability. Many parents almost get stuck on finding out the cause of the disability which may lead to blaming and bitterness in the family. They need help in coming out of that phase and start working on the child constructively. Discussing possible causes of the disability in detail is essential mainly to help parents take a decision about planning the next baby. Otherwise, it is better to discuss intervention (future) rather than 'what must have led to disability' (past).

Causes of Conductive Hearing Loss

Conductive hearing loss is caused due to problems in the outer ear or the middle ear or both. Common causes are:

- Conditions associated with middle ear pathology such as fluid in the middle ear from colds, allergies (serous otitis media), poor eustachian tube function, ear infection (otitis media), perforated eardrum (i.e. hole in the tympanic membrane), benign tumors

- Impacted earwax (cerumen)

- Infection in the ear canal (external otitis)

- Presence of a foreign body

- Absence or malformation of the outer ear, ear canal, or middle ear

- Congenital defects in the outer or middle ear.

Causes of Sensorineural Hearing Loss

- Specific illnesses or infections

- Traumatic brain injury

- Drugs that are toxic to the auditory system

- Genetic syndromes

- Excessive or extreme noise exposure

- Viral infection in pregnancy

- Rh incompatibility

- Head trauma

- Ageing

- Tumors

- Infections involving the inner ear and hearing nerve

- Hearing loss that runs in the family (genetic or hereditary)

- Consanguinous marriages-Marriage between close relations.

Causes of Mixed Hearing Loss

Mixed hearing loss as stated above is a condition where conductive hearing loss is present in combination with a sensorineural hearing loss. Most common cause is long standing infection in the middle ear which may further damage the inner ear thus causing Sensorineural hearing loss in addition to Conductive hearing loss.

As mentioned earlier, Conductive hearing loss can be treated medically or surgically, but Sensorineural hearing loss is a permanent condition and cannot be treated medically or surgically. The only solutions for it are use of amplification (hearing aid) and cochlear implants.

Can we not prevent hearing loss? Hearing loss cannot be prevented in each of the cases. But yes, certainly we can take some preventive measures to reduce the occurrence of hearing loss.

Prevention of Hearing Loss

- Avoid marriages amongst close relatives.

- Immunize adolescent girls and women in child bearing age against Rubella.

- Ensure good health of the expectant mother.

- Do not clean the ears with pointed objects like pencils, hairpins etc. If there is a need to clean the ears in case of impacted wax, go to ENT surgeon. Avoid cleaning ears by roadside quacks. Do not use oil or any other liquid for cleaning the ears.

- Do not swim in dirty water it can enter your ears and may cause infection.

- Visit an ENT doctor immediately if you have pain, swelling, discharge, a wound in ear or frequent and prolonged coughs and colds.

- Use ear protectors while working in noisy places.

- Control upper respiratory tract infections, especially in children below 5 years of age.

Occurrence of hearing loss cannot always be prevented, but definitely its impact can be reduced, if identified and intervened early.

- High risk babies should be screened for hearing loss at the time of birth.

- All school children should be screened for hearing loss.

- Developmental milestones of each child should be monitored for any delays and deviations.

- If there is any indicator of hearing loss, hearing should be assessed immediately.

- If there is no medical or surgical treatment available, immediately consult an audiologist for appropriate amplification.

As a resource teacher you may feel accountable to students who already have hearing loss. But you can take a lead in activities related to awareness on Prevention and School Screening.

Things Worth Trying!

- A boy complains of difficulty in hearing when spoken to softly. He gets himself tested. Doctor tells him he has an infection in the middle ear. His test shows that his pure tone average is 50 dB in both the ears. Can you guess the type of hearing loss? Which test do you think was administered to him?

- A lady has pus oozing out of her ears. What would you advice her? Whom would you refer her to? Prepare a list of ENTs and audiologists in the vicinity of the school.

Developmental Milestones of the Children without Impairment

Prashnakumari became a good friend of Dost. She also went to his home for a Diwali party. She saw Dost's photos in which he was just a tiny baby of 2 years. She was surprised to see the hearing aid in his ears. She asked Dost's elder sister about it.

> **When and how do we come to know that a baby has a hearing loss?**
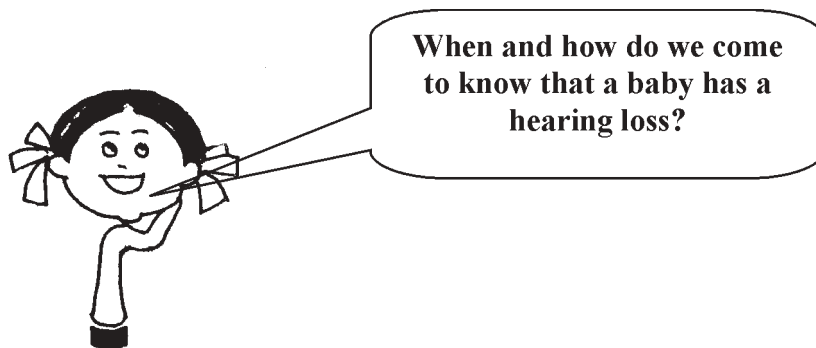
Hearing loss is generally suspected when the child does not cross the developmental milestones as per the expected schedule. How do YOU know if a student is reaching the milestones appropriately or not? How do you suspect a problem? Check the progress / development / current functioning of the child against these developmental milestones. Although the students are over 4-5 years when they enter the school, it is always better to have the information about milestones of a younger child too.

Firstly, let us see the development in the first year in little detail and then see the developmental milestones till the 6th year of the child. Shown in table on next page.

Developmental Milestones

The course of children's development is mapped using a chart of developmental milestones. These milestones are behaviors that emerge over time, forming the building blocks for growth and continued learning. Some of the categories within which these behaviors are seen include:

- Cognition (thinking, reasoning, problem-solving, understanding);

- Motor coordination (gross/fine motor, jumping, hopping, throwing/catching, drawing, stacking);

- Social interaction (initiating peer contact, group play);

- Adaptive (dressing, eating, washing);

By age one

- Recognizes name;

- Says 2-3 words besides "mama" and "dada";

- Imitates familiar words;

Hearing	Speech
Birth-3 Months	**Birth-3 Months**
Startles to loud sounds	Makes pleasure sounds (cooing, gooing)
Quiets or smiles when spoken to	Cries differently for different needs
Seems to recognize your voice and quiets if crying	Smiles when sees you
Increases or decreases sucking behavior in response to sound	
4-6 Months	**4-6 Months**
Moves eyes in direction of sounds	Babbling sounds more speech-like with many different sounds, including *p, b* and *m*
Responds to changes in tone of your voice (angry versus happy)	Chuckles and laughs
Notices toys that make sounds	Vocalizes excitement and displeasure
Pays attention to music	Makes gurgling sounds when left alone and when playing with you
7 Months-1 Year	**7 Months-1 Year**
Enjoys games like peek-a-boo and pat-a-cake	Babbling has both long and short groups of sounds such as "tata, upup, bibibibi"
Turns and looks in direction of sounds	Uses speech or non-crying sounds to get and keep attention
Listens when spoken to	Uses gestures to communication (waving, holding arms to be picked up)
Recognizes words for common items like "cup", "shoe", "book", or "juice"	Imitates different speech sounds
Begins to respond to requests (e.g. "Come here" or "Want more?")	Has one or two words (hi, dog, dada, mama) around first birthday - although sounds may not be clear

- Understands simple instructions;

- Recognizes words as symbols for objects: Car - points to garage, cat - meows etc.

Between one and two

- Understands "no";

- Uses 10 to 20 words, including names;

- Combines two words such as "daddy bye-bye";

- Waves good-bye and plays pat-a-cake;

- Makes the "sounds" of familiar animals;

- Gives a toy when asked;

- Uses words such as "more" to make wants known;

- Points to his or her toes, eyes, and nose;

- Brings object from another room when asked.

Between two and three

- Identifies body parts;

- Carries on 'conversation' with self and dolls;

- Asks "what's that?" And "where's my?"

- Uses 2-word negative phrases such as "no want";

- Forms some plurals by adding "s"; book, books;

- Has a 450 word vocabulary;

- Gives first name, holds up fingers to tell age;

- Combines nouns and verbs "mommy go";

- Understands simple time concepts: "last night", "tomorrow";

- Refers to self as "me" rather than by name;

- Tries to get adult attention: "watch me";

- Likes to hear same story repeated;

- May say "no" when means "yes";

- Talks to other children as well as adults;

- Solves problems by talking instead of hitting or crying;

- Answers "where" questions;

- Names common pictures and things;

- Uses short sentences like "me want more" or "me want cookie";

- Matches 3-4 colors, knows big and little.

Between three and four

- Can tell a story;

- Has a sentence length of 4-5 words;

- Has a vocabulary of nearly 1000 words;

- Names at least one color;

- Understands "yesterday," "summer", "lunchtime", "tonight", "little-big";

- Begins to obey requests like "put the block under the chair";

- Knows his or her last name, name of street on which he/she lives and several nursery rhymes.

Between four and five

- Has sentence length of 4-5 words;

- Uses past tense correctly;

- Has a vocabulary of nearly 1500 words;

- Points to colors red, blue, yellow and green;

- Identifies triangles, circles and squares;

- Understands "In the morning" , "next", "noontime";

- Can speak of imaginary conditions such as "I hope";

- Asks many questions, asks "who?" and "why?"

Between five and six

- Has a sentence length of 5-6 words;

- Has a vocabulary of around 2000 words;

- Defines objects by their use (you eat with a fork) and can tell what objects are made of;

- Knows spatial relations like "on top", "behind", "far" and "near";

- Knows her address;

- Identifies a penny, nickel and dime;

- Knows common opposites like "big/little";

- Understands "same" and "different";

- Counts ten objects;

- Asks questions for information;

- Distinguishes left and right hand in herself;

- Uses all types of sentences, for example "let's go to the store after we eat".

How is understanding developmental milestones relevant to you as a resource teacher? Why do you need to know about them?

It will help you in at least two ways: You will be able to monitor the development of all the children in your environment including the students in your class. Most importantly, it will help you set appropriate targets for the SWHI. As we know, the development and progress of a SWHI have to be at par with the age mates without impairment. Hence knowing the details of the development of the non-impaired is absolutely important for those who work with the SWHI. This will help teachers avoid underestimation or overestimation of the child's functioning.

Things Worth Trying!

- Prepare a checklist on the basis of the milestones given here for parents to fill up and give it to 2-3 parents of the children from that age group.

- Record the talking of a four year old hearing child and make a note on his/her speech development.

- The milestones given here are related to speech / hearing / language development. Collect the milestones in the area of cognitive development.

Identification of Hearing Impairment

As Prashnakumari started interacting with Dost on a daily basis, she didn't find him very strange anymore. She also started interacting with Dost's parents. Once she asked Dost's mother how she found out for the first time that Dost was unable to hear.
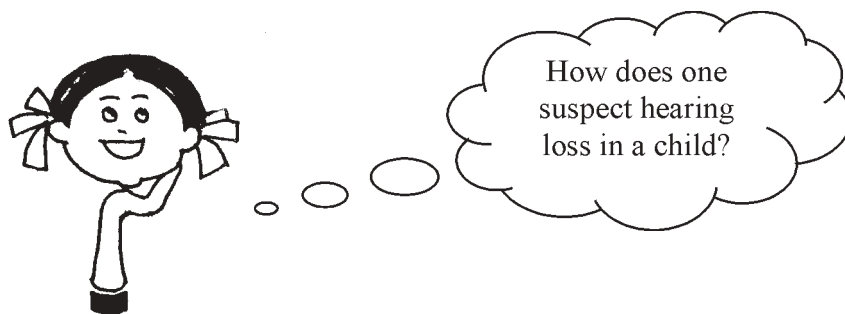
Identification of hearing loss is a wide term. It involves several steps and the word identification is used to refer to any one of these or all of those steps taken together. These steps are:

(1)   Family members **suspect** hearing loss or speech problems in a child.

(2)   General practitioner (family doctor), school teacher or an ENT observes/screens/ interacts with the child to **endorse** the suspicion of the parents. He / she suggest **further assessment**.

(3)   An Audiologist carries out an audiological assessment (for example puretone audiometry, impedance audiometry or BERA) and **diagnoses** the child for hearing loss.

(4)   An Audiologist / counselor explains the meaning of the carried out tests to the parents. The report is given to the parents.

(5)   The child is given the **certificate of disability** (hearing loss).

The focus of this unit in your module is to describe the tips for the first step given above - how to suspect hearing loss in a child. Before such tips are given a few important points are given here for better understanding.

(1)   It is always difficult to notice the hearing loss in a child when it is:

- Of mild degree;

- Unilateral in nature;

- Temporary in nature;

- Fluctuating in nature;

- Present in child born in a family with no history of deafness;

- Progressive in nature.

(2)   Once suspected the child should be taken to the **audiologist immediately** without hesitation. If, the child has hearing loss it is better to identify it early. Postponing assessment because you are 'not sure' is not good. In both the cases whether the child has hearing loss or he / she does not have it, it is better to check at the earliest.

(3)   Any alert individual in the environment can suspect hearing loss - neighbors, relatives, maid servants, co-passengers etc. Whoever suspects, must communicate the suspicion to the family members without hesitation at the earliest.

(4)   Ideally, screening to rule out any of the disabilities / diseases is the birth right of every child. Hence, even if the child is not likely to have hearing loss (or nobody suspected it); it is a good step to get this basic audiological assessment done.

(5) Hearing loss can occur to any individual at any age. Hence, periodic ruling out of hearing loss at least for school going children is quite useful.

(6) All children who are referred to audiologist (because the family members suspected hearing loss) are not found to have hearing loss.

For studying 'how to suspect hearing loss in children', we can categorize children in two groups: Young children (from birth to 3 - 4 years of age) and school (including pre school from 3-4 years to 15 – 16 year olds) going children. The method used for the first group is to compare the development of that particular child with the standard developmental chart of non-impaired children. If the child is found to be late in achieving developmental milestone/s he is the **candidate for further assessment**. With second group, some typical signs and symptoms are kept in mind. If any child is found to have even one of these, he / she is to be sent for further assessment.

This module consists of a developmental chart indicating age-wise milestones of non impaired, typically developing children (chapter: A5). Compare age-wise development of each child against the norms given in the chart. Particular child in your mind must have developments as per the chart. With this comparison you will know whether the child requires further assessment or not. Do not panic for any small deviations from the chart, these developmental milestones are not hard and fast rules which each child follows rigidly. Yet they provide a general framework of when to expect what. For any doubts – further assessment is a must!

For the second group of school age children, you must suspect hearing loss when:

(1) The child appears to have 'strange', 'different', 'unclear' speech.

(2) The child appears to have problem paying attention or concentrating in class.

(3) The written matter of the child shows missing gaps in places of word endings like ed, ing, ly etc.

(4) The child appears to be lonely, isolated, away from group activities.

(5) The child brings one ear ahead while listening.

(6) The child speaks too loudly or softly.

(7) The child who keeps, radio, TV, tape recorder on high volume.

(8) The child does not respond to a question asked from behind.

(9) The child does not respond to a question asked from a distance.

(10) The child does not respond to his name or a question asked from another room.

Even if a particular child has just **one indicator** given above, please refer him / her for further assessment.

Most of the indicators given above are indicators of **mild to moderate** losses. Children having severe to profound hearing losses are generally identified before the age 5-6 years particularly because of the noticeable impact of hearing loss on the development of speech and language. Moreover, the absence of the child's responses to environmental sounds and talking of others too are clear indicators for the family members.

Things Worth Trying!

■   Make a list of noise makers in the home environment and school environment which can help us suspect hearing loss. (for example, door bell, pressure cooker whistle, baby crying, etc.)

Impact of Hearing Loss on Learning and Development

Prashnakumari got to know more about hearing loss. She knew that the hearing aid helps Dost listen. She knew that his speech and language were not age appropriate. But she always wondered why Dost had problems with reading text books? She also noticed that Dost had very few friends. When she went to the school councilor with Dost, she asked him her doubts.

Why may a SWHI have problems with reading or making friends?
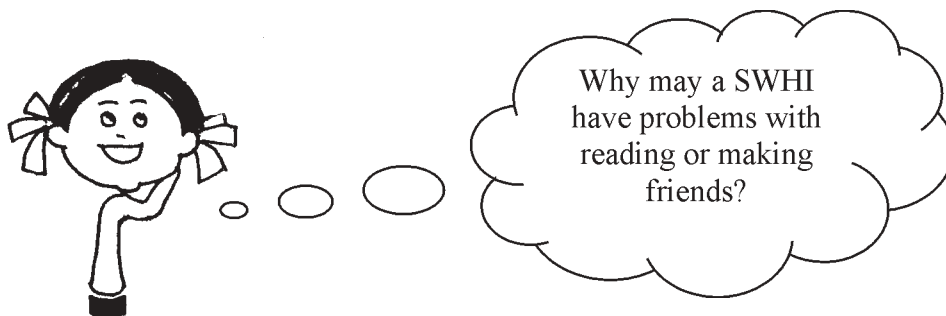
Initially we have seen the difference between the terms 'impairment' and 'handicap'. Impairment is the biological / physical loss which can be of trivial nature. However, this impairment turns into a handicap which is far more serious than the physical loss. It is like physical reality creating barriers in individual's functioning and social participation. Therefore while studying the impact of hearing loss on learning we must deal with cases of 'hearing impairment' and 'hearing handicapped' separately. There are a few prerequisites which, if fulfilled can prevent hearing impairment turning into a handicap. In numerous of cases in India these prerequisites are not fulfilled. Therefore, this section discusses the case of that typical child with hearing loss who has **NOT** got the support of other factors and hence the magnitude of the negative impact of hearing loss on his/her functioning is greater. Many of the SWHI that you get to work with will be of this type and it is this type of SWHI who need your attention, time, and resources than the smaller number of SWHI who do not have severe concerns in terms of communication and education.

Let us see how hearing loss turns into a hearing handicap, which factors contribute to this and how the magnitude of the concern gets bigger from a physical reality to social, academic, life-skills related restrictions.

Figure # 2: Nature of Hearing Loss: Magnitude of Concern
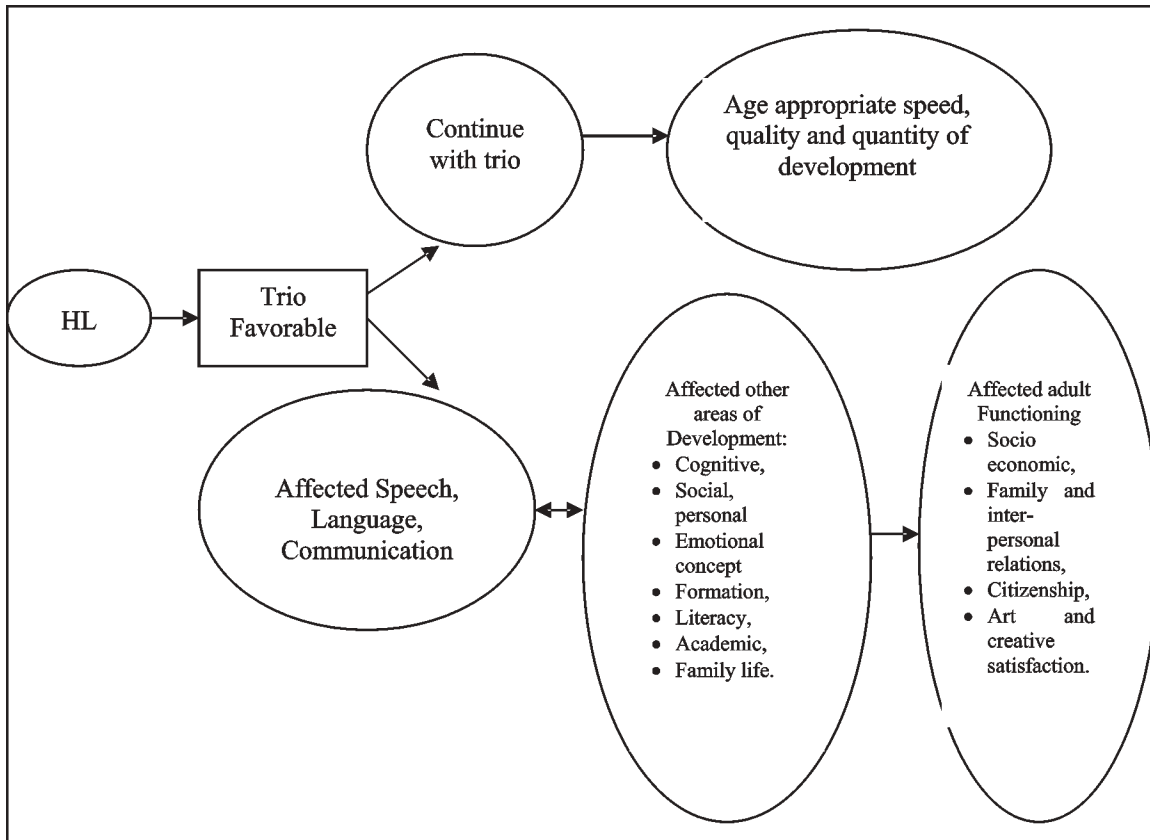
Please look at the diagram carefully. You will notice that the first concern after the hearing loss is diagnosed is to see whether the trio is favorable or not. What is this trio? Trio means the three essential factors which play a major role in determining the level of functioning of the child. These are: early intervention, parental involvement and access to communication (either with the help of ACE hearing aid or natural exposure to sign language). If these three factors are taken care of then the chances of the development of the SWHI can be expected to be at par with the non-impaired peers. The term 'Development' here refers to speed of development, quality of development and quantity of development.

However, if these three factors are not favourable then the impact of hearing impairment on development and learning is of a greater extent. First and foremost it impacts the development of speech language and communication. Most of the (not all) SWHI that you come across may have concerns in these areas. It is very urgent and essential that they be provided with the three factors

mentioned above. Not only because the speech language and communication gets affected but more importantly because the other areas of development are at risk. Inadequate language creates concerns with other areas of development like cognitive development, social development etc. Please note that the hearing loss itself does not have any direct connection with these developmental areas. Hearing loss impacts language and inadequate language impacts the other areas. This is so because the developments of all the areas are closely interlinked. If one gets affected the others automatically become at risk for getting affected. Further, because these areas are affected the adult life of the SWHI also gets negatively impacted. This is what is indicated in the last circle.

Now let us see how hearing loss impacts learning of an individual. Here again the most important point is to understand that it is not the hearing loss itself that impacts the learning but the inadequate language which creates barriers in learning. Yes, those who can hear; process their knowledge through auditory channel. SWHI can be given ACE amplification with training and hence he /she too can process information auditorily. For some reason if that is not possible or that is not the communication option chosen for a SWHI; then he / she should be given opportunity to process information through a visual language. IF such natural and complete access to communication is not provided to a SWHI then his / her learning process becomes at risk for getting negatively impacted.

What role does language play in the understanding of subject textbooks of History, Geography, Science, civics, Mathematics? Language plays a major or a rather essential role in understanding and processing of school subjects. Knowledge of school subjects is given, processed and taken predominantly through a tool called language. You will not be able to teach science without using language and a SWHI will not be able to learn science without using language. Language is the tool though which information is:

- Gained (taken in);

- Sorted out (registered – throwing out unnecessary and forwarding the necessary);

- Processed (organizing, classifying, linking with earlier information);

- Stored (in either short term or long term memory);

- Retrieved and used;

- Put into practice;

- Updated;

- Evaluated.

If the SWHI does not have adequate age appropriate language base then this linguistic inadequacy creates problems in all the processes mentioned above. You can get an idea of language and

information processing of the SWHI after reading this. However, remember **this does not mean** that they are incapable of learning or they are slow or deficient learners. Nor are they intellectually deficient low. It simply means that **their needs are different and they need different teaching learning strategies.** It means at least three things:

(1)   You have to ensure natural and complete access to communication;

(2)   You have to keep working on language separately and over and above language textbook;

(3)   You have to use alternate / flexible / visually oriented classroom strategies for the SWHI.

Things Worth Trying!

■   Make a small leaflet describing the mediating role that language plays in the overall development and functioning of a SWHI.

■   Write down how different SWHI with varying degrees of negative impact of hearing loss would have on different educational needs. Can you see the connection between the needs of special schools and not fulfilling the trio of preconditions? Describe the same.

Children with Deafness and Communication Concerns

Soon Prashnakumari and Dost became friends. She learnt to communicate well with him. Yet many a times she would find it difficult to put across her ideas to him. Dost has hearing loss which I know – she would think, but why is he unable to communicate like other classmates?

> How does hearing impairment impact communication?
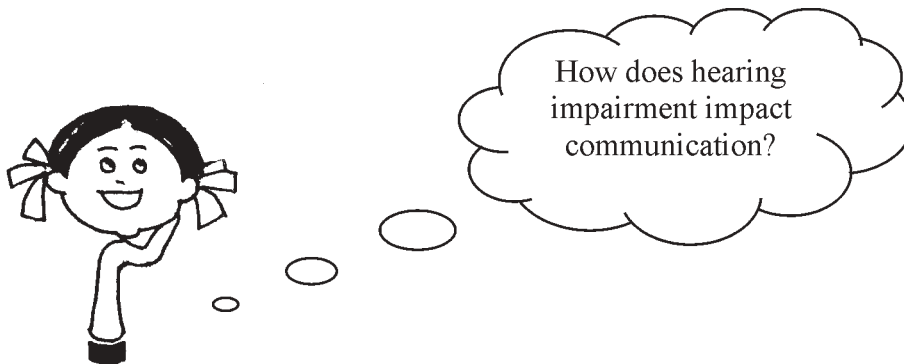
Let us begin with the title of this chapter. Why does it use the term deafness rather than hearing impairment? We had seen in the first chapter itself that the word deafness refers to profound SN hearing loss since birth. On the other hand the term 'hearing impairment' refers to all the degrees - from mild to profound. We also know that the degree, type and nature of the hearing loss significantly determine what age-appropriate things that the child can do and cannot do. In this section we want to discuss the communication concerns of children with **profound degree** of hearing loss and hence the title consists of the term 'children with deafness' rather than 'children with hearing impairment'.

In general, one can say that the more the degree of hearing loss, more is the possibility of negative impact on the development and functioning of the child. Parental involvement, professional support, stimulating environment - there could be many factors which impact the development of a child. Degree of hearing loss is not the only factor. But keeping the other factors constant, degree of hearing loss plays a major role in deciding the speech and language development (and functioning) of the child. The more the child gets to hear, better would be his / her speech skills. On the other hand, the lesser the child gets to hear poorer would be his / her speech and language skills.

To begin with let us understand the terms communication, language and speech. We also need to look into the process of their development in non-impaired children. This will help us understand the concerns and challenges related to development of communication, language and speech of children with deafness. At the end, we also need to discuss about how to overcome these challenges.

We use the word communication very commonly and casually. What does it mean? **Communication** is an intentional two way complex process of sending message from one end to the other via a channel. Have a look at the following examples:

(1)   Nisha writes a letter to Rama.

(2)   Neha is unfolding the story of Shrikrishna through her Bharathatyam.

(3)   Roshani saw red light at the signal and stopped her car.

(4)   Ramesh waves 'bye' to Suresh.

(5)   Rahim says, " Arshad please go to the bank".

(6)   John opens the door when the bell rings.

(7)   Rita teaches her students the 'Properties of Air' using the Indian Sign Language.

(8)   Mintu listens to the radio.

Which of these are examples of communicative events? Yes, all the 8 are examples of communication. Communication is a two way process of transfer of a message from one end to the other through a channel. What happens in these 8 events, do fit into our definition of communication. Now let us try to identify whether all events can be called language? You are very sure of 1, 5, and 8 for being examples of language.

What about 7? Indian Sign Language, (as suggested by its name) is a language and hence communication example number 7 must be categorized along with 1, 5, 8. What about other examples 1, 2, 3, 4, 6 are communicative events but not examples of language. Linguistic communication can take place through following three **modes of communication**:

(1)   Aural / Oral (listening / speaking)

(2)   Visual / Graphical (Reading / Writing)

(3)   Visual / Manual (Sign Language)

Again have a look at the list and point out the examples where speech is involved. Yes, 5 and 8 are examples of speech.

Figure # 1: Communication, Language and Speech
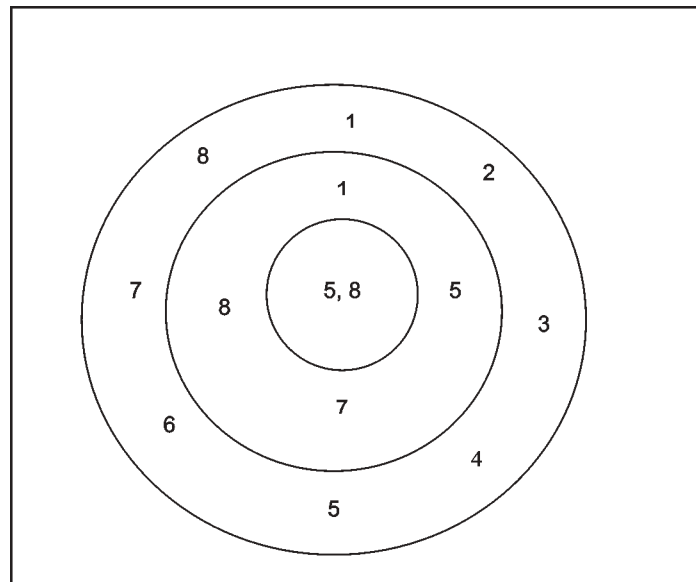
The above figure illustrates the relationship among the terms Communication, Language and Speech. Communication is the wider term (the outer most circle) which includes 'any and all' ways through which messages are exchanged. When these messages are rule-governed and consistent they are called languages (the medium circle). Languages can be expressed through three modes; 1, 2, and 3 given above. Only one of them is called speech (the inner most circle)

> **How is this speech – language – communication relationship relevant to you as a resource teacher? Why do you need to know about it?**

It will help you understand what is the basic concern of a child with deafness? Is it communication, language or speech? It appears that the biggest concern for the child with deafness is speech but that is not true. Because speech is more 'physical' and concrete; impact of deafness on speech is very visible and clearly noticeable. But in the absence of some favorable factors the major concerns of deafness are language and communication. Speech concerns which surface clearly; are actually the tip of the iceberg. The real weaknesses linked with deafness (not in ALL but MANY cases) are language and communication.

To see how deafness creates challenges in the area of communication, language and speech we need to look at the case of a normal hearing non-impaired child.

Language Development of a Typically Developing Non-Impaired Child: Process

Carefully observe the process of young children acquiring speech and language, and you will realize the nature of the speech – language - communication link and how it gets disturbed in case of a child with deafness. A non-impaired child gets to hear environmental sounds and comforting parental voices even before it is born. It already has an intelligent mind which is constantly processing this data entered through the hearing mechanism. Combined with real life context and experiences the baby soon after being born, starts responding to language. And as the baby gets biological maturity and a support from controlled movements of speech organs (tongue, lips, teeth, larynx, vocal cords, lungs etc.) it starts uttering the heard (and processed) words / phrases and sentences. The baby - from vocalization to articulation, gets to hear his/her own speaking along with the others speech.

This opportunity to hear own speech is an additional data for him/her to compare own speech with others'. It also helps the child model adult speech. This chain of data entry (getting to hear speech of self and others), data processing (understanding language) and monitoring output (own speech) gets refined day by day. For example, the baby gets to hear and process the word 'milk' again and again in various contexts. The intelligence of the child helps him/her associate the word 'milk' with the warm, sweet, white liquid that goes into the mouth. Soon the baby not only understands the meaning of the word 'milk' but starts asking for it when gets hungry. The word milk is just one concrete and oversimplified example. The process actually is quite complex and also deals with more complex concepts than 'milk'.

Impact of Hearing Impairment on Listening and Speaking

Now think of a child who cannot hear adequately - child with hearing impairment. Intelligence, experience, biological maturity, control over speech organs; the child has all the ingredients required to use speech and language. But the speech and language do not develop **age appropriately, automatically and adequately** only because the child did not get to hear what is being said by others and by himself / herself. It is like a machine fully ready to produce goods, well connected to energy source. It will not produce anything till raw material is not inserted into it. This is the major concern of hearing impairment. The system to process speech and language is in place but required raw material for it to enable any processing is inadequate. How to revive the broken link between hearing and speaking? Scholars answer this question predominantly in two ways:

(1)   One way to restore the link between hearing and speaking (and language) is to provide the child with an ACE (appropriate, continuous and early) **amplification with training**.

(2)   Another answer is to bypass the link between speaking and hearing by providing the child with EARLY, NATURAL and RICH exposure to sign language.

The issue of these two answers and their mid points is complex, multi-faceted and challenging. We will discuss them elsewhere.

How is the language development of a non-impaired child relevant to you as a resource teacher? Why do you need to know about it?

If you are aware of it, you will draw following conclusions:

(1) Most of the children (not all) with deafness you meet will have speech and language concerns which are due to inadequate auditory input that they receive.

(2) There is nothing wrong with the speech organs of the children with hearing impairment and hence they should not be addressed as dumb or mute. Don't let others address them like that.

(3) There are children who have speech and language concerns WITHOUT having hearing impairment. Learn to distinguish between the two types. You will get the information on those concerns in this book.

(4) Deafness is a package of one question with at least two answers. How will you ensure language development? Either by providing ACE hearing aid with training or exposing him / her to natural sign language. YOU are accountable to help family arrange for one of the two for the child.

Impact of Hearing Impairment on Reading/Writing

As we have seen earlier there are three ways in which language can be exchanged aurally / orally, through reading / writing and through signing. The description above makes clear how deafness impacts listening, speaking and language. But what about reading and writing? Children with deafness can see clearly and have adequate control on fine motor skills, eye hand co-ordination etc. In that case they should not have problems in reading and writing. But most of them do have reading / writing concerns. These are discussed in chapter B 6.

Sign Languages and Language of the SWHI

Sign Language is a visual manual and hence children with deafness at least theoretically **should not** have problems with sign language IN TERMS OF TAKING IT IN, PROCESSING IT AND USING IT FOR EXPRESSION. This is true and many studies have emphasized that introduction to Sign Language helps children develop age appropriate language, educational and social skills. However, almost all these studies are carried out in western advanced societies. In India research into Indian Sign Language (ISL) is very rare. The concerns and challenges related to ISL are more pragmatic (related to application) than theoretical. Ideally, ISL too should be able to offer what American Sign Language offers American individuals with deafness. But, the biggest practical barrier in this is the extreme inadequacy of training avenues for ISL training.

Children with deafness are not born with sign languages (including ISL) like children of Hindi speaking families are not born with Hindi. They acquire Hindi after being born only if they get E3 (experience, exposure and environment) of Hindi. But from where will children with deafness get E3 of ISL? Most of the children with deafness are born to parents who are non-impaired. Neither do they know ISL nor are there adequate number of training avenues available for parents to learn it. Only a small number of deaf children who are born to deaf couples get E3 of ISL. The majority of children with deafness do not get the opportunity to use this visual solution in their early developmental age. This is the major concern related to use of ISL for communication.

Children raised with Total communication (the option where by combination of Sign System and speech is used simultaneously) face similar limitations which are experienced by the children who use either oralism or ISL.

In short:

(1)   Children with deafness may not be able to use listening and speaking adequately for communication **IF** they do not get appropriate, continuous and early (ACE) amplification with auditory training

(2)   Children with deafness may not be able to use signing adequately **IF** they do not get E3 of ISL in early years.

(3)   Children with deafness may not be able to use reading / writing adequately **IF** they do not have adequate command over language (verbal or manual).

Speech reading / lip reading is a highly inadequate tool of independent communication so it is not listed here as one of the options.

This is the nature of communication concerns of children with deafness. It basically means that linguistic communication in most of the cases of SWHI does not take place automatically and naturally. Age appropriate language skills can be attained (and is attained) by the SWHI only if parents / professionals put in special efforts in that direction. The magnitude of the problem at the physical / biological level is not very big. But it gets bigger because a big number of SWHI do not get what is required for age appropriate development: access to easy and natural communication, parental involvement to the optimal possible level and early intervention.

Things Worth Trying!

■   Make a case study of any of your students with deafness in terms of the communication options he / she uses while communicating with class teacher, family members, hearing peers and other students with hearing impairment.

■   Make a list of all the SWHI in your schools and review how many of them have easy, fluent and complete access to communication.

■■

Educational Aspects and Adaptive Devices

Role of Resource Teacher in Mainstream School

The most important work of a resource teacher actually begins much before enrollment of a SWHI in a school. You are expected to carry out tasks at various levels. As said in the introduction of this section itself, you are the strongest link between national policies and the families of SWHI. If you are successful the system is going to be successful. Therefore, let us understand the role you are expected to play in detail.

We can categorize the role of a resource teacher into 4 types.

(A)   Facilitating the process of making community more inclusive, right-based and inclusive;

(B)   Tuning the school environment;

(C)   Family empowerment and advocacy;

(D)   Individualized coaching. (Discussed in chapter – B 06)

Let us briefly see what the first three of the four points involves. In one of the coming chapters, you will get the details on the fourth aspect: Individualized coaching.

Remember: The issues get 'from macro to micro' as you move on from A to D. The changes that you wish to bring about in terms of A and B are systemic changes; they involve long term processes which are rather slower. These are the changes which are little more difficult to bring about. This however does not mean you don't work on them. In fact, you must aim at bringing about changes in the system. But it would work out better if you have realistic and pragmatic goals by **striking the right balance between macro (systemic) and micro level (individual) changes.** Micro level changes indicated in C and D are more evident, measurable and comparatively faster. But they benefit individuals rather than the system itself. To strike the balance of duties, a resource teacher must work on A and D but focus energy, planning and activities more on B and C. Always keep one thing in mind, those who wish to bring about changes must have a good sense of planning and prioritizing more important work.

(A)   **FACILITATING THE PROCESS OF MAKING COMMUNITY MORE INCLUSIVE, RIGHT-BASED AND INCLUSIVE**

A resource teacher is mistaken if she thinks that school is only her / his work place. School

is part of the community. The school will have all the desirable and undesirable characteristics which are found in the community. If the community is not positive and pro-active about the disability issues, so will be the school which functions in that community. This is simply because the school draws its students, parents, teachers, staff, authorities, funders, trustees from the same community. It is therefore necessary to work on facilitating the process of tuning the community to be more disability friendly.

As per the SSA norms and the key functions listed for an IERT, following are the work areas of a resource teacher which will improve the functioning of the community:

- Community mobilization;

- Awareness activities;

- Celebration of world disabled day / world deaf day etc;

- Screening of babies in community;

- Referrals for families in community;

- Support services for those who are not directly associated with your school;

- Prevention camps for community;

- Writing awareness articles in popular media;

- Assist in fund raising activities for aids and appliances for those who need.

The work related to community development takes longer time but this exercise is worth since it will give results on permanent basis. You need to plan creatively for such activities. You may also have to involve other resource persons, NGOs or funders in such efforts. Also, maintain good record of these activities and do share your experience and material with other resource teachers.

(B) TUNING THE SCHOOL ENVIRONMENT TO SUIT THE NEEDS OF THE SWHI

Children with hearing impairment are children first, so the school should be able to fulfill social, academic and health / hygiene related needs of the children. Over and above that; because the child has hearing impairment, he / she has some special needs. The school (which is originally designed to address the needs of the non-impaired children) has to be tuned / changed / adapted to make the education of the student with impairment to be fruitful, happy, easy and within the time-frame set for all the children.

PRACTICAL ACTIVITY

(B 1)   Four adjectives are used above to describe how the education of the student with hearing impairment should be. Education does not merely mean enrollment in the school or even passing

from one standard to the next. It means more than that. To understand this statement, describe these four adjectives in your own words: fruitful, happy, easy and within the time-frame.

As resource teacher what is your role in making school education meaningful to the students with hearing impairment in terms of tuning the school environment? As per the SSA norms and the key functions listed for an IERT, following are the work areas of a resource teacher which will tune the school to be more disability-friendly.

- Preparing suitable reusable TLM;

- Knowing the list of curricular adaptations required by the students of all types of disabilities;

- Suggesting, demonstrating and reviewing benefits of curricular adaptations to the teachers or school authorities;

- Advising class teachers on inclusive strategies;

- Making important recommendations to the school authorities (for example, shifting a class of a SWHI in a noise-free place, having loop induction system in one of the classrooms, providing facility of appearing for SSC exam externally etc

- Modifying academic assignments whenever necessary in consultation with the class teacher;

- Suggesting adapted evaluations;

- Co-teaching or team teaching of general classes;

- Collaborating with the general class teacher of the SWHI for fulfilling communicative or academic needs;

- Sensitizing peers;

- Making provisions for listed exemptions / concessions in the curriculum and examinations;

- Reviewing drop-rate and making provisions for minimizing the same;

- To be in-charge of cluster resource room including care, use and maintenance of aids and appliances;

- To orient the instructors of EGS/ AIE on management of SWSN;

- Training of special teachers in convergence with IEDC.

This may sound as a big task list but actually all the work areas are interrelated and once you start working systematically the objectives will appear to be realistic. To help you actualize the workload a few steps are suggested. Following these steps you will be able to bring about change in school environment. Remember, we are looking for the changes which are **desirable, long term, systemic rather than individualistic and measurable.**

STEPS FOR IMPLEMENTATION

(1)   Knowing the school well:

        Obviously to bring about changes in the school you need to know the school well. Some schools prove to be conducive for CWHI and a few other schools are not very effective in accommodating CWHI. Why does this happen? How can we measure the environment of a school to see whether it is disability-friendly or not?

PRACTICAL ACTIVITY:

(B 2) Make a report on the current functioning of the school describing various general factors like medium of instructions, school timings, days off, standard available (till which school operates), availability of school bus etc. The report should also consist of specific factors which would facilitate better education for the SWHI.

(i)   Noise level of the school. Some schools are situated in noisy areas, (near railway tracks or in the market place or near traffic junctions etc). This makes listening and communication difficult for the student who uses amplification. How is the selected school on this parameter?

(ii)   Availability of classroom with loop induction or group hearing aid. Even if the school has one or two classrooms with such facility, the class with SWHI can be held in that room. Does this school have such facility?

(iii)   Use of visual aids. Some schools have culture of using visual teaching aids some do not. Learning becomes simpler for the SWHI if these aids are appropriately used by teachers. How is this concerned school functioning on this parameter?

(iv)   Teacher training / orientation on disability. This is one of the factors that affects learning since communication tips and dos and don'ts for classroom activities are taught during such training programs. For SWHI, it is absolutely necessary that the teachers know how to make communication accessible. Has this school taken care of such training?

(v)   Teacher Student Ratio. If the number of students in a class is less it is better in two ways. Teacher has time to pay more individual attention to the students and the noise level can be kept lower with less number of students.

(vi)   Facility and willingness to provide exemptions and concessions. Persons with Disabilities Act (1995) has many provisions for exemptions and concessions for SWHI. However, neither families nor schools are aware of these. Due to this schools may not offer such facilities. Report school's status in terms of exemptions and facilities that it offers.

(vii)   Number of students with disabilities in the school.

These and many other factors play important role and hence you need to prepare the report of the school for its readiness to accept a SWHI. Only then will you be able to help schools become more disability-friendly.

(2)   Making the list of changes to be brought about:

Once you know where the school stands in terms of its readiness you will know the exact areas identified for improvement. For example, your list may include items like:

- Arranging HI specific training for teacher / classmates / school authorities.

- Collecting data base on current exemptions given in your state. You may need to find out the procedure and forms to be filled up to avail this facility. Please make a proper file for such information which will help you give this information to families more readily and systematically. Keep a list ready which has addresses of schools which give exemptions because these schools are good resource.

- Identifying funding agency which could donate loop induction for a class or an individual hearing aid.

- Identifying friendly smart classmate to sit next to SWHI to provide ongoing support as and when required.

- Giving demonstration lesson for showing 'HI appropriate' inclusive teaching habits like not covering face while talking, not taking rounds of class while teaching, ensuring adequate light on teacher's face etc.

Once you start reviewing schools systematically you will be able to make a long list of such desirable changes. Remember, this is just the list of changes; the real task is to implement a plan whereby these changes are brought to reality.

(3)   Planning and implementing changes:

Prepare action plan using the following format. You will have to prepare separate action plan for each of the desirable change that you listed above.

Format of action plan for tuning school environment: For better understanding, the format is filled in appropriately. But this is just one of the examples of the changes. You will have to prepare a separate plan for separate desirable change that you need to bring about.

(1)   **Statement of desirable change**: This has to be specific and time-bound rather than a general abstract one. For example, see the two statements below:

(a)   To orient classmates

(b)   To orient the students of 7 B about hearing aids, how do they work, how you should communicate when your friend is using hearing aid before Diwali break.

(Statement 'b' is more specific and objective oriented. Ensure that your statement too is action oriented and specific.)

(2)   **Time period within which it is to be achieved:** Before Diwali break. Tentatively scheduled date: date of last paper of terminal examination.

(3)   **Accountable authority that is expected to decide:** Principal and class teacher of 7 B.

(4)   **Target group of this change:** Classmates of Aayesha (7B)

(5)   **Duration required:** Two sessions of 1 hour each

(6)   **Funds required:** Travelling allowance to be given to the audiologist / special teacher (Rs 200 per session) + photocopies of the survey for the classmates

(7)   **Possible problems / limitations / barriers: a.** Students going by school bus may not stay back for the session, **b.** parents of Aayesha do not wish her hearing aid issue to be discussed with the classmates, **c.** second session will be conducted after Diwali break so students may not remember what they learnt in the first session.

(8)   **Possible solutions: a.** Circular can be sent well in advance to the parents so that at least 50% of students' parents will make some alternate arrangement to pick them up. b. Home visit to meet Aayesha's parents to help them understand that such information to the classmates will be good for Aayasha's education. **c.** Distributing leaflet along with demonstration and lecture so that students will remember the important points.

(9)   **Collaboration with external professional or institute:** Special teacher/ audiologist from a nearby special school.

(10)   **Material required:** Leaflet on hearing aid, photocopies of survey on awareness on hearing aid for the students, OHP with appropriate slides, actual hearing aids.

Bringing about change is more possible, systematic and faster if such plans are made.

PRACTICAL ACTIVITY:

(B 3) Read and study 5 to 10 Action Plans: readily available with training supervisor.

Even if you plan and implement 3-4 changes in school system per academic year, you will have achieved a great deal. Resource teachers must pay attention to tuning the school environment as they pay attention to fulfilling individual child's academic needs. This is because teaching a child is a micro level change and making the school system more disability-friendly is a macro level change.

Resource teachers must always remember that as the system gets improved permanently more number of children get the benefit of it for many years to come. Improving school environment and providing support coaching to each child are two ends of a continuum of activities. Many more activities fall on this continuum in between these two ends for example, family advocacy and empowerment.

(C) FAMILY ADVOCACY AND EMPOWERMENT

Several interacting factors (child, school, resource support, government, media, and community) play important roles in shaping the future of the child. Among all these factors, family is the most significant due to at least three reasons. Firstly, families can spend more number of hours with child than any other agencies of change. Secondly, the urge for betterment of the child is naturally felt most by the family. Thirdly, with special reference to SWHI, families are most important since they provide natural environment for language development. Communication, Language and Speech development are closely linked with experience and context. All aspects of language cannot be 'worked on' in classrooms. If families are trained to develop language particularly as per the needs of SWHI, they can do wonders. Let us therefore specify the resource teacher's role in family advocacy and empowerment. As per the SSA norms and the key functions listed for an IERT, following are the work areas of a resource teacher which will empower the families:

■ Providing help in obtaining, using and maintaining aids and appliances;

■ Ensuring involvement of the family in preparing TLM;

■ Providing needs based guidance and counseling;

■ Identifying recourses within the family to facilitate better education;

■ Involving families in IEP preparation and implementation;

■ Assisting family – to – family links so that families work towards similar goals.

Training of parents is very essential. How can you help families deliver better?

(You can follow similar steps as that of school empowerment described in earlier point).

STEPS FOR FAMILY TRAINING

■ Study the strengths and concerns of the family by discussing, seeing earlier reports and observing.

■ Identify the training needs of the family as per the level of involvement of the family members. It is not necessary that only parents be trained for all the skills. Elder siblings, aunts, uncles, and grandparents – it could be anyone having time, motivation and temperament to learn.

- Plan training activity. You can make groups of family members with similar needs.

- Arrange training by yourself or with the help of a special educator of SWHI from a nearby school.

- Review the impact of training. This is very important since at the time of the training the participants feel that they have understood the points very well but may not practice it at home.

- Update the training needs and the families periodically.

- Have 'heart to heart' conversation with parents so that you can help them accept the hearing loss positively.

- Empower the parents about their rights and responsibilities.

- Arrange for families and parents to come together. Identify leaders among parents and empower them to form association / group.

PRACTICAL ACTIVITY:

(B 4) Make a list of frequently asked questions by parents after they come to know about the hearing loss of their child.

Techniques of parent empowerment

- Training and lectures

- Parent-Parent dialogue

- Introducing successful deaf adults

- Showing films on process of education and language development of SWHI

- Preparing handouts

- Visiting special schools for SWHI. These schools use various techniques and methods for language development. It is worth for family members to see what the special teachers do. There are many aspects like auditory training, speech development and literacy teaching which family members can work on independently at homes

- Arranging special sessions on skill development and hands on experience for family members in areas like auditory training, sign language learning, trouble shooting of hearing aids, filling up forms to avail exemptions, network technology, preparing low cost teaching learning material, audiogram interpretation etc

- Demonstration: Resource teachers can give or arrange for demonstrations of small activities

like auditory training, speech correction, speech reading, assessing literacy skills, preparing experience workbooks, games to facilitate development of thinking, observing, reasoning etc.

There are many doubts and fears in the minds of family members. Some share those readily. With others, resource teachers have to work hard to make parents open up with their worries and doubts. It is always better to keep a checklist of points ready for each of the family. As and when you cover important points you can put the date across the checklist. Your checklist will consist of list of points to be discussed with each family: audiogram interpretation, rights of the parents, hearing aid (strengths / limitations / care / training etc), developmental milestones, PWD Act, exemptions and concessions, types of schooling, language development, literacy development, cleaning ear mould, tuning home environment etc.

PRACTICAL ACTIVITY:

(B 5) Select any of the topics given above and prepare a small leaflet on that for the family members.

Tips to remember while working with families:

- Family members may need the information of general nature like food habits, toilet training, personality traits, controlling TV time, discipline etc. Try to give information on these issues also rather than restricting yourself with issues directly related to hearing loss, speech and language.

- It is always better to give information in the mother tongue of the family. That creates a comfort level in parents who pay more attention to the details.

- Give information in stages as per the digestion capacity of the family members. You could group them as per their level of understanding. Remember, education and income do not necessarily indicate better understanding of the parents. Many times, motivation and willingness to change self for the benefit of the child appear to be more important than intelligence and education.

- You be positive about strengths of families. This positive energy will reflect in family involvement and will eventually help the SWHI. Don't keep on saying and thinking 'families are useless, they are not bothered about their child'. We fail to notice many good things about the families because we have labeled them 'useless' in our minds.

- Encourage families to look for other sources of information like other parent training programs, books, websites, other resource teachers etc. With reference to information to family members – more is merrier.

- List of 'take home points', leaflets, lists, photocopies etc must be distributed regularly. This

way the information reaches all the family members. Also, only listening through lectures may not help parents remember all the details.

Like school empowerment, family environment too plays a major role in ensuring better education for the SWHI. Never underestimate it.

Need Based Educational Support and Placement Options

This chapter is divided into 2 parts: identification of needs of the SWHI and placement options.

Identification of Needs of the SWHI

Identification of needs of the SWHI is the most significant task any teacher / resource teacher has to undertake. Two points should be understood very well here.

(1)　Identifying need is the beginning of the intervention process. If that task is done systematically and specifically the process ahead has chances of success. If needs are not adequately and carefully identified further course of intervention may go wrong at the cost of educational development of the SWHI. If setting objective is considered as step 1 in providing educational intervention, listing the needs is the step zero. In math the number zero is not only an entity which comes before one but it gives value to other numbers. Similarly identification of needs will collaborate with each of the steps in intervention.

(2)　Needs are of various levels and types. There is a literacy of needs. Which is….

　　(a)　Needs of SWHI because he / she is a child (health care, food, love, affection, stimulating environment etc.)

　　(b)　Needs of SWHI because he / she is a child at risk of marginalization (flexible curriculum, positive attitude, diversity friendly environment)

　　(c)　Needs of SWHI because he / she belongs to the group of children with disabilities having special needs (exemptions in examination, educational support technology etc.)

　　(d)　Needs of SWHI because he / she has hearing loss (amplification, seat on first bench, smart positive hence mate etc.)

　　(e)　UNIQUE needs of a particular SWHI since each child is unique combination impairment, technology available, family and environment.

The need based educational support is discussed in this section with special reference to levels d and e. But the a, b, c levels of needs must be fulfilled for these SWHI. Ensuring fruitful, happy, easy and time-bound education to SWHI involves fulfilling several needs of the SWHI. These needs are of two types: communicative needs and academic needs.

Fulfilling Communicative Needs

Tuning communication process: Dos for teachers while teaching in a class with a SWHI

- Take a position where there is adequate light on your face;

- Call for attention before talking;

- Talk clearly;

- Talk loudly;

- Repeat if required;

- Ask to repeat if required;

- Indicate the topic (pointing, body language, teaching aid, Black Board);

- Rephrase your question if required;

- Show the SWHI 'who is talking' when other students respond to teachers Question;

- Ask SWHI to turn & face the talker.

Tuning communication process: Don'ts for teachers while teaching in a class with a SWHI

- Don't Shout;

- Don't Exaggerate lip movement;

- Don't Chew eatables;

- Don't move while talking/teaching;

- Don't talk/teach while writing on the Board;

- Don't talk fast.

Fulfilling Academic Needs

(1) Tuning learning environment:

- Selection of classroom (noise free)

- Selection of seat (close and visible)

- Selection of bench mate (friendly and bright)

- Selection of teaching technique (audible and visible)

- Selection of classroom technology (audible and visible)

Figure # 3: Appropriate Seating for CWHI (Indicated by Red Dot)
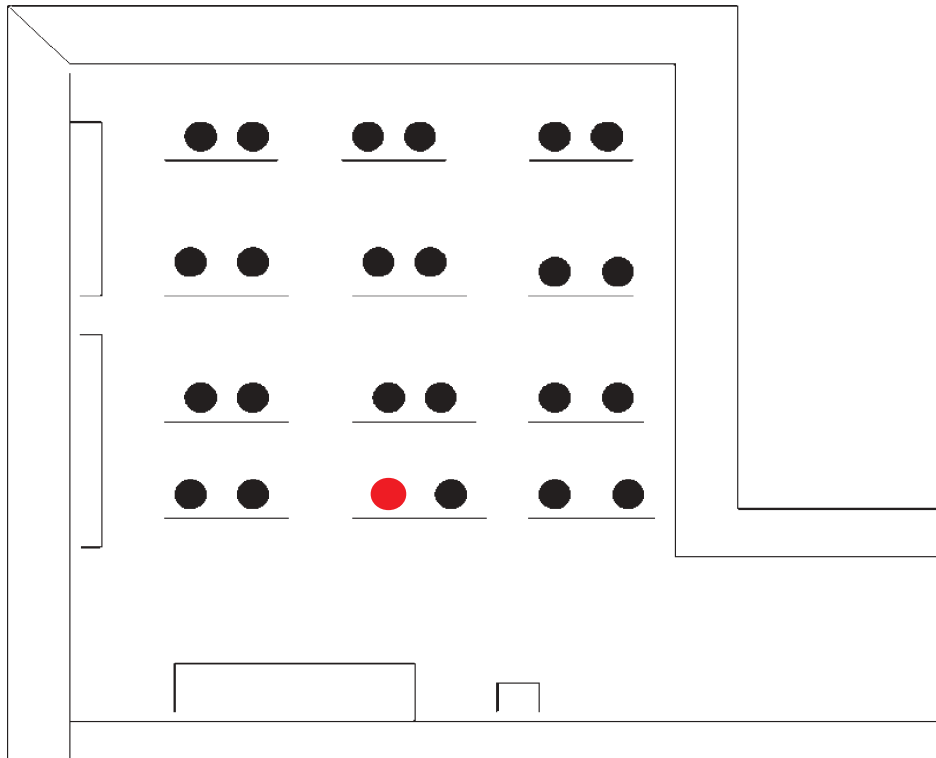
Tuning teachers

- Positive body language;

- Face to face communication;

- Giving eye contact;

- Ensuring academic participation;

- Ensuring social participation;

- Giving opportunity;

- Giving feedback;

- Being agent between SWHI and classmates;

- Individualized attention if possible.

Placement Options

You are aware of various types of schooling options that are available for the children with disabilities. In terms of amount of specialized input provided to the child, the schools are primarily classified

into **special schools and mainstream schools**. Special schools as we know, are specially designed (in terms of infrastructure, curricular transactions, and teacher education) to suit the needs of children with disabilities who may find mainstream schooling difficult. Mainstream schools on the other hand are designed (in terms of infrastructure, curricular transaction and teacher education) for non- impaired children. Majority of children with disabilities can gain education in these schools, many need support service and a very few may need special schooling to gain meaningful education.

Following are the **basic types of schoolings:**

- **Special school:** Schools designed only to suit unique needs of the SWHI who do not (as long as) cope in mainstream school.

- **Mainstream schools:** Various options fall in this category which can be further categorized into three types**:**

  A) **Inclusive schools** (where the teachers, environment, curriculum is such that ALL children with whatever diverse needs would be able to learn. This means the school system is ready for satisfying the diverse needs of all students including the needs of a SWHI)

  B) **Integrated schools** (where children receive individualized special input from the special educator as and when required within the mainstream school set up – the children are made ready to fit into the system)

  C) **Regular schools** (where neither inclusive nor integrated components are present – neither the system nor the child is made ready for mainstream school. But the child is enrolled in a school conventionally designed for the non impaired children mostly because that's the only option for the family).

There are many more types and subtypes within the range of these three options.

- Placement options under **non-formal education** like National Institute of Open schooling (NIOS). Although this may not be the first choice for education for any SWHI. There are SWHI who need non-formal schooling and as a resource person you need to be aware of its functioning. Until all the children born with hearing loss do not get the benefits of the desired trio of parental involvement, early intervention and access to communication; we will continue to need such options.

- **Home based education** (where the child is enrolled in a school but is unable to reach school on daily basis due to multiple / mobility / self help related disabilities / illness. In a few developed countries, families choose to educate the child from home but that is very uncommon in India).

We also noted these basic **types of students** with disabilities:

- Children who in spite of hearing disability benefiting from mainstream schools even if they do not get much of specialized support or resource support.

- Children with disabilities who require some support to benefit from mainstream schools. If they get such support the chances of their completing school education are great.

- Children with disabilities who may not be able to benefit from mainstream education even after the support is provided and hence may require special schools.

Look at the types of children and look at the types of options. The issue appears to be simple but it is not as straight as it appears to be. There are many more educational options which fall between the four broad options given and there are many more types of children who fall among the three categories given above. With children with hearing impairment, the diversity of needs is very high. Each child is a unique child and is like a category in itself. For example:

- Some children need special school in early years and then they can move on to mainstream school.

- Some children my need special school after primary education.

- Some children may need specialized individualized input along with enrollment in mainstream school.

- Some children may benefit from mainstream schools and yet require specialized academic support for social studies, science or languages or literacy.

- Some children may need some classroom amplification and some may need sign language interpretation in the class.

- Some may need certain concessions and exemptions and the others may not need them.

The SAALE Model: Systematic Approach for Adapting the Learning Environment given by Kate, 2003, explains 7 levels of needs and placement options.

(1) No adaptation required. (Inclusive school where environment, infrastructure and curriculum are diversity friendly)

(2) Adapted performance standards and speed. (Inclusive school where environment, infrastructure and curriculum are diversity friendly and individualized input provided as and when needed)

(3) Adapted pacing, technique and material with regular manpower (Mainstream school with resource teacher / unit)

(4)   Adapted pacing, technique and material with support staff

(5)   Adapted content (Mainstream school providing exemptions and concessions or non formal agencies of education)

(6)   Adapted manpower (self content special class in mainstream schools)

(7)   Alternative program (special school placement)

PRACTICAL ACTIVITY:

(B 6) Take any two SWHI that you know. Describe their needs as per the 7 levels of needs given above.

(7)   Prepare a small leaflet describing the academic tuning of the classroom activities to the teachers.

At this point, the issue of appropriateness and availability of services needs some attention. It is very simple to make a list of educational options in general but are all these options available to all the families with children with disabilities? No, they are not. Ideally, all the families should have all the basic options available for them to choose from. But whatever option that appears to be appropriate for a child may not be available and accessible to that child. Under such situation, the child is enrolled in a school which is in his / her close vicinity whether that type of school is appropriate or not.

It is also relevant to mention here that the decision about enrollment of a child with hearing impairment into a particular type of school is very significant since it has great impact on development and functioning of the child. There are no hard and fast rules in terms of which child should be advised to enroll in special school and which child into a mainstream school. Yet, some factors which need to be considered while helping family take this decision are:

■   Age of child;

■   Current functioning of the child in terms of age appropriate language development;

■   Current level of functioning of the child in terms of school subjects and literacy;

■   Benefit from amplification;

■   Presence of other disabilities;

■   Intelligence;

■   Social emotional maturity;

■   Personality of the child;

Over and above these clinical / personal factors, other environmental factors too play major role in deciding where the child should be placed. Some of these are:

- Family support;

- Availability of school type in neighborhood;

- Transport facility to school;

- Match / mismatch between medium of instruction in school and first language of the family;

- Availability of other professional services within the reach of the child like speech therapy, hearing aid repair etc;

- Which school siblings and neighborhood children go;

In case in any doubtful case the child should be given opportunity to enroll in mainstream school whereby his / her progress is monitored in order to shift him / her to special school if need be.

Few facts about the types of schooling and selection of one school over the others.

- Both the two broad categories (mainstream and special) of schools have their own strengths and concerns. In general however, it is recommended that the child should be raised in least restrictive, barrier-free inclusive society. Mainstream schools from this point of view are more like a mainstream society than a special school. Hence it is said that except a very very few, most of the children with disabilities should be enrolled in mainstream schools. For the SWHI, mobility, architectural access, intelligence, self help, self care etc are non issues. Because of this they should be enrolled in mainstream schools. Their inadequate speech and language can be one of the concerns but with support that barrier can be minimized.

- Special schools cannot be made available to each SWHI since the population of SWHI is small and scattered all over the country.

- Special schools need not be made available to each SWHI since it is not needed for all.

- SWHI can avail the concessions and exemptions identified for them by the PWD Act within the mainstream school set up. Families and mainstream teachers many times incorrectly think that SWHI should go to special schools in order to get benefits of these provisions.

- Mainstream and special school are not either /or options. Mid options of combinations of both the types of schools may work out better in many cases.

- Mainstream school teachers can look at special school as guiding source or a resource center rather than a 'dumping ground' for the students who cannot cope in mainstream schools.

Once the decision is taken that the child needs to be enrolled in mainstream school, identifying a particular mainstream school for him / her needs careful selection, planning, implementation and monitoring.

Inducting SWHI into a Mainstream School

This chapter is about facilitating the process of enrollment into mainstream education. The process will differ as various types of children and schooling options mentioned above. Yet we can draw some common conclusions and a list of common dos and don'ts which you may keep in mind while enrolling a child with hearing impairment in a mainstream class.

Selecting a particular mainstream school for child with hearing impairment:

Mainstream schools are not designed to deal with children with sensory impairments and hence much of child's achievements depend on the mainstream schools' readiness to include a child with disability. There are hardly any golden rules or ready lists of schools which will prove beneficial for the child. Yet, resource teachers may help families select a particular school on the basis of a few systematic steps.

(1)   Preparing IEP for knowing the concerns, strengths and needs of the child.

(2)   Making a list of mainstream schools which could be options for enrollment for the child.

(3)   Review merits and demerits of each of the school.

(4)   Assist family in enrollment.

(5)   Simultaneously work on

- tuning the school environment

- family empowerment

- providing academic support to child

Places wherein there is one mainstream school in neighborhood the families do not have to make selection of a school. But when there are choices one must look for school which:

- Is close by to the residence / has school bus facility (child's time must not be wasted in covering long distances through public transport),

- Has medium of instruction of family's choice,

- Already has children with either hearing impairment or any of the disabilities,

- Has resource room / teacher or the teachers have undergone disability orientation,

- Has scope for co curricular activities where the special child gets to exhibit his / her talent,

- Is more easy going on 'so called merit parameters'. (schools which are into rat race of exam percentages and ranks are known to be less patient with disabilities),

- Is small, friendly with less number of students in a class.

PRACTICAL ACTIVITY:

(B 9) Make a rating scale to evaluate the readiness of a mainstream school for accepting and including a child with hearing impairment. You can use the parameters given above and many more that you can think of.

(B 10) Take any 2 schools nearby and use the prepared rating scale to rate their readiness.

Assisting family in enrollment is also an important step in which resource teachers could play a major role. The legislative framework of our country (like PWD Act, Right to Education Act. etc.) strongly supports families in getting their children with disabilities enrolled in neighborhood mainstream school. No school can deny admission to any child on the basis of disability. Yet, many school authorities try to avoid giving admissions to children with disabilities. There could be many reasons for it like:

- Incorrect information that a child with disability can only go to a special school.

- Looking at disability as additional burden of responsibility.

- Confusion between disease and disability.

- Hesitation due to lack of infrastructural readiness.

- Schools being more competitive about academic results having no patience to deal with CWHI.

Although families have legislative support for mainstream school enrollment, families and resource teachers should take enrollment by explaining the needs of the child clearly. If that does not work in any of the cases then help from social worker / advocacy groups / associations can be sought. Some of the families may think of an option of legal litigation. If that is the case, the resource teacher must assist the family in ensuring their rights.

PRACTICAL ACTIVITY:

(B 11) Interview a school principal of a mainstream school which does not have a child with disability. Present a report on it with your comments and conclusions. The areas you could discuss are:

- Fears / hesitations / challenges of having a children with disabilities in her / his school

- Willingness to bring about change in school system

■   Possible benefits of having children with disabilities

It is always better to be with the family till the procedure of enrollment is complete. Although we know that as per the PWD Act and also as per the recent Right To Education Act no school can deny admission to a child on the basis of gender, religion, disability or socio economic background yet we also know that a) school authorities and families are not aware of these rights b) even if the school authorities may know about the Acts and the rights, due to their mindset they may not welcome the child whole heartedly. c) Even if the parents know about Acts and rights they generally do not want to fight for it.

As a resource teacher, you have a role to play here. You will have to encourage parents to be polite yet firm about the child's rights. You will have to empower the school authorities so that they do not feel hesitant or insecure about enrolling the child. At both the places you will have to assure your support in the process. Remember, enrollment is just the beginning and not the end in itself. We are looking for happy, appropriate and measurable education for a child in a barrier free and inclusive environment. We want much more than physical enrollment. For this, one needs positive mindset along with legislations. You need to work on it at both the ends: families and school authorities.

Strategies for Curriculum Adaptation and Inclusive Strategies

You all are trained teachers of the students with disabilities and need not be explained what curriculum is; nor do you need to be told what adaptations are! However, it is always better to start from the beginning ensuring that one is absolutely clear about the basic concepts involved. Hence, let us just quickly brush up what we know 'curriculum' and 'adaptations' to be. Curriculum, in general is a detailed blueprint of 'what to teach' and 'how to teach' which includes at least following things

(1)   Objectives of Teaching Learning Process (TLP);

(2)   Content (subject matter) of the TLP;

(3)   Speed and duration of TLP;

(4)   Classroom curricular transaction strategies;

(5)   Calendar and schedule of activities and experiences required for facilitating TLP;

(6)   TLM required for TLP;

(7)   Assessment strategies formative as well as summative.

'Adaptation' simply means the changes that we need to bring about so as to make anything more need appropriate. We already have seen that SWHI have different and diverse educational

needs and hence it is very obvious that they need adaptations in the curriculum. Curriculum existing in the mainstream schools is, in many cases – difficult and faster for the SWHI. But this does not mean that they have to be separated in special schools on the basis of their different needs. Keeping them away from the mainstream curriculum may destroy the whole concept of education in the least restrictive environment. Therefore, it is necessary to make some adaptations. Out of the above given 7 ingredients of curriculum which do you think need adaptations? Different SWHI may need different adaptations. But, in general one can say that as far as possible, 1 and 2 should remain unchanged. In ideal adaptation, content is not changed; instead the teacher provides multiple means for students to learn and respond. This is not at all difficult. By varying the teaching aids, teaching speed and teaching strategies teachers can very well make the classroom teaching successful. It is for the teachers to provide a learning environment in the class by introducing support materials to make the learning task easier for CWHI. Making the task EASIER does not mean REDUCING the task.

Understanding children

First of all, it is necessary for teachers to understand each student's learning style and provide support to encourage him to learn. Each SWHI is unique in his / her communicative needs. Though all SWHI have hearing loss in common, all of them have different degrees and types of hearing losses. Few of them benefit from hearing aids and some need additional support like speech reading and visual information. Some of them may be responding quickly but unable to make proper utterances because their speech is inadequate or their language and vocabulary are insufficient (communicative difficulties) to express themselves. Their communication also gets affected by group size and other children who express vocally. It requires different methodologies for learning purpose without making any substantial changes in the subject area. A good teacher can teach all children effectively irrespective of their disabilities.

Teaching from the text books

Text books are the most significant learning recourse. However, due to language inadequacies, text books contribute to the difficulty experienced by the SWHI. Text books are actually written for the non-impaired students without language difficulties. These text books may concentrate on the content and may not pay much attention to language. They may lack a conceptual coherence. Some time the text is high on concept density. This means new vocabularies and terms introduced by text books are vast. Children often need some adaptations in the text books. Text books can be adapted by modifying:

- Language complexity (using simple sentences / short sentences / adding examples);

- Organization of the content (adding bullet points, summarized points, numbered points. Underlines and high lighters etc);

- Visual support with illustrative explanations;

- Lesson end exercises.

Here is one of the examples of the text adaptation. Please note the difference between the original and the adapted text.

General Science 8th Std

Biological Diversity (unadapted text from the text book)

The variety that we see in the living things that exist on the earth is called biological diversity or bio – diversity. Thousands of species of animals and plants can be seen to exist on the surface of the earth. There is an abundance of variety in their shapes, sizes and body parts.

From micro – organisms and unicellular plants and animals to giant sized trees, vines and huge animals like the elephant and whale, there is great diversity everywhere and in all aspects of living things.

There is tremendous variation in the eating habits of different animals. Variety is also seen in the bodily systems, species and in the factors that transmit chromosomes from one generation to the next in all these plants and animals.

There is also much variety in the body structure, life patterns and habitats of species that belong to the same class.

ADAPTED TEXT OF THE ABOVE MATTER

There are plenty (abundance) of living things on the earth. These living things are of two types - animals and plants. These include micro organisms, unicellular plant (plants with single cell), unicellular animals, giant sized trees, vines etc. These living things (animals and plants) are not same, they are different from each other. This variety in the living things is called bio-diversity (biological diversity). Living things are diverse (different from each others) there is diversity of …

- Shapes

- Sizes

- Body parts

- Bodily systems

- Eating habits

- Factors that transmit chromosomes from one generation to the next

- Body structure

- Life patterns (how long they live, when do they procreate etc.)
- Habitats

The bio-diversity is across the class (type) (for example, Insects are different from four legged animals). The bio-diversity is also seen within the class (For example, All insects are different from each other).

History 8th Std. (Unadapted text from the text book)

Why did the uprising fail? – The revolt of 1857 was an event of great magnitude but it did not end the British rule in India. This was because the uprising was not well coordinated and there was no centralized leadership. Those who fought in the uprising did not have sufficient arms. The educated Indians and a majority of the rulers of the princely states kept themselves away from the uprising. On the other hand, the British had a unified leadership, a disciplined army, modern weapons and experienced commanders. They had control over transport and communication. Therefore, the Indians were unable to overcome them.

Although the uprising failed, the sacrifice of those who fought in the uprising was not in vain. It inspired the future generations of Indians. The British power was shaken due to this revolt.

Why did the uprising fail? (Adapted text)

The revolt (uprising) was an event of great magnitude. The objective of the uprising was to end the British rule in India. The uprising could not do that.

Why did the uprising fail?

Reasons related to Indians:

(1) The uprising took place at various places but there was no coordination among the uprisings at different places.

(2) Each of the places had local leaders but there was no centralized leader.

(3) The fighters of the uprising did not have sufficient (enough, adequate) arms.

(4) The educated Indians and most of the (majority of) rulers of the princely states kept themselves away (did not participate).

Reasons related to the British:

(1) British had unified (centralized) leadership.

(2) They had disciplined army.

(3) They had onodern weapons.

(4) They had experienced commanders.

(5) They had control over transport and communication.

This was important because the uprising took place at various places in India. Therefore the Indians were unable to overcome them. Although the uprising failed, the sacrifice of those who thought in the uprising was not in vain (did not go waste). It inspired the future generations of Indians. The British power was shaken due to this revolt.

PRACTICAL ACTIVITY:

(B 12) Describe the changes made in the two adapted texts given above.

Select a page from science or Civics text book and adapt it as per the needs of a SWHI.

Please remember text adaptation:

(1) does not mean cutting down the content or points or dropping the difficult to teach content;

(2) makes the text longer than the original text;

(3) does not mean summary of the content;

(4) adaptation involves:

- In-depth instructions;

- Careful explanations;

- Illustrative support;

- Links with real life experiences;

- More number of examples;

- Rephrasing;

- Reminding and referring back the earlier learnt content;

- Frequent drills for practice;

- Repetition to learn important and new information;

- Frequent summarized recapitulations

Due to language inadequacies and limited vocabulary, the fluency and accuracy in understanding the text is affected. There are children who cannot read the text material or cannot comprehend what they have read. Reading from text books will be easier if the reader's prior knowledge forms the foundation for constructing meaning. If some background information is given on a subject, the

students comprehend better. Students gain more information from silent reading rather than oral (loud) reading because the actual task of reading aloud interferes with comprehension. They gain less information by reading because they are unable to take in as much information per minute as fluent reader. Therefore, teachers need to give enough time for children to read the given text. Teachers can make the teaching learning process effective by adapting simple strategies. They include:

(1) Breaking the learning task into teachable sub-components:

A lesson may contain different kinds of information. Teacher can break the lesson into teachable units and teach them sequentially. In the same way, a task may require several skills or many different kinds of information. After identifying them, they can be broken into smaller tasks along with the prerequisites for learning the task. The instruction should begin with necessary pre-requisite skills or information.

(2) Using examples:

It is difficult for the SWHI to imagine something unrelated to the physical and psychological context of the classroom. Learning becomes easier when the new information is connected with known things. Giving examples, from immediate environment or past experience enhances understanding. While giving examples, use pictures/real objects or write the word on the board. In this way teachers can provide opportunities for concrete learning. While following the teachers, most of the time children with hearing impairment speech-read the teachers. But children cannot always speech-read or cannot always understand every information by speech-reading. Even if they do so, only one third of the speech sounds are visible. It is tiresome and very difficult to speech-read beyond 10 feet.

(3) Activity-oriented approach:

In activity-oriented approach textbook reading and vocabulary demands are reduced and student-centered exploration are emphasized. Activities could be designed to provide the students with an integrated understanding of the lesson. Lesson can be introduced and taught through play activities. In this method, children learn through discovery and active participation is ensured.

(4) Arranging field trips / visits:

Field trips provide hands on experience which contribute to proper concept development. Relying on reading and speech reading in the class may tire students and information and knowledge may not be received at the optimum level. Field trips and visits arranged with well-defined learning objectives can many times overcome the loss of learning experiences which are forced by the absence of the senses. At the same time the learning of the students

should not be completely dependent on the first hand experience. They should be empowered to comprehend things which they have never experienced. Moreover, if these visits are not well supported by the language learning experience then it is of less use.

(5)   Use of teaching aids:

Several concepts taught in the class may not be understood easily by the SWHI since they cannot hear the complete lecture in the class. Therefore, it is essential to use additional teaching aids, which may provide the needed support in learning and concept development. Overhead projectors (OHP) can be used effectively. Teachers can write material that can be seen by all students while the teacher is facing the class. Preparing additional teaching aids should not be considered as a burden. In fact, these teaching aids enable even the non-disabled students to have enriching learning experience.

(6)   Peer group activities:

Working in small groups or pairing students for a particular task generally works well with any child with disability. In these instances, teacher must develop strategies that allow students with hearing impairment to be a contributing member in the group. These students accept peers to great extent despite their weaknesses. At the same time, non-disabled classmates contribute significantly to the educational experiences of SWHI.

(7)   Summing up at the end of class:

Start the class with outline of the lesson or present the critical information of the lesson. End the lesson by summing up the content with key points or flow charts and connect to future learning. Recapitulation is the biggest aid in learning. If your summary is in written form, it will go a long way in helping the SWHI learn the concepts better.

(8)   Including students with hearing impairment in the classroom discussion:

Some students may have distracting speech patterns. Speech may be slow and difficult to understand. Patience and additional time are critical. Teachers should not ignore or guess what the student is trying to communicate. Initially the teacher may have to facilitate interaction to motivate the student to communicate. Realize that SWHI have limited vocabulary and his/her failure to understand may be related to the language deficiency as well as inability to hear normally.

Some tips for the mainstream teachers are as follows:

(1)   Glance at the child (give eye contact) during the teaching time to know whether he/she is following. Eye contact is also very crucial in making the SWHI feel part of the class. It helps him / her to be connected with academic activities.

(2) Use pictures for abstract concepts.

(3) Face the class and talk naturally with natural gestures / body language which include facial expressions, pointing and eye gaze.

(4) See whether sufficient light falls on the board and on teacher's face.

(5) Make the SWHI sit in a place where he can see the teacher and other students. Ensure access to classroom materials and equipments. It is critical that seating arrangement facilitate inclusion rather than isolating the child.

(6) Include SWHI in all activities.

(7) Orient the class about the disability and the problem in language and communication.

(8) Curtail unnecessary noise in the classroom.

(9) Write homework and assignments on the board.

(10) Talk in full sentences.

(11) During class discussion allow one student to speak at a time and signal who is talking so the student knows where to look.

(12) If you have difficulty in understanding the SWHI, ask for repetition.

(13) Do not frequently call attention to the child's speech errors in the classroom.

(14) Realize that SWHI have limited vocabulary and his/her failure to understand may be related to his language deficiency as well as inability to hear normally.

SWHI many times have defective speech and it may be difficult to understand in the beginning. If a child is unable to speak give him few options to choose or ask him to write or allow him to explain through gestures. If students with hearing impairment become more active in the learning process, their self-esteem increases and they value and perceive themselves positively.

PRACTICAL ACTIVITY:

(B 13) List out five specific text adaptations you will make for teaching 'Properties of water' in a mainstream class which includes SWHI.

LEGISLATIVE SUPPORT: CONCESSIONS / EXEMPTIONS / RESERVATIONS

Reaching education to 100% population of school going age is a mammoth task not only because the number is too big but also because the population is too diverse. Considering this and to facilitate the process of education of the children with special needs legislative support has been provided to families. You are aware of the PWD act and the National Trust Act. These acts have

given guidelines on curricular adaptation that are needed by individuals with various disabilities. Using these general guidelines, each of the state government is expected to prepare rules and regulations for the state education boards to follow. These rules and regulations clearly spell out the concessions / reservations and exemptions offered by the state government for the students with special needs. Most of the state governments have come up with these regulations which are available in the form of small booklets, leaflets or through websites. It is absolutely necessary for you to know these concessions, reservations and exemptions completely since neither school authorities (who are expected to offer these) nor families (who are expected to avail these) are aware of these. You will have to play very important mediating role in this link whereby you help schools in offering these concessions, reservations and exemptions and help families in availing these for the benefit of the students.

REMEMBER:

■ Although the general guidelines about reservations, concessions and exemptions are given in the Acts, the implementation is carried out and monitored by state governments.

■ Specific documents like disability certificate are required for availing these benefits. Only certified students can avail these benefits.

■ Although these benefits are for all the certified students, it may not be needed by all of them. You must help family decide whether to avail these or not. There are advantages and disadvantages of availing these. Hence, careful decision making is needed.

(B 14) Study the information on legal benefits (concessions, reservations and exemptions) of your state provided to you by the supervisor. Collect additional information from websites, booklets etc. Prepare a table of all the provisions in terms of specific provision, applicability, requirements etc.

Individualized Education Program

In the very beginning we learnt that a group of SWHI is very heterogeneous. This means each SWHI is unique in terms of:

■ Clinical features (type / degree /nature of hearing loss)

■ Barriers / facilitators in the environment

■ personality of the child

■ combined effect of all of the above on the development and functioning of that SWHI

■ Ways and means to satisfy these needs

■ Reviewing techniques to see whether needs are fulfilled or not.

Because each SWHI is different from the other children he/she needs a **unique specific plan only made to facilitate his / her development and learning.** Such a plan is called individualized education plan / program (IEP). One of your important tasks is to develop the IEP for each of the SWHI in your schools. Basically any plan of action is very important since it is the blue-print of the long-term activities. A mainstream class teacher also makes such a plan (her time-table, calendar of activities, exam schedule, portion covering schedules etc) for her class. Since the non-impaired students in her class are quite (not very) homogeneous (more similar than different from each others), one plan suffices for all 40 or 60 students in the class. With SWHI, however, individualized plan needs to be prepared.

Please remember IEP is NOT a daily lesson plan developed for teaching a particular SWHI. It is rather an overall plan prepared for the SWHI for a period of 6 months. It should ideally consist of:

- Personal demographic information (part A of the plan you use)

- Environmental information

- Priorities, concerns and resources of the family

- Services required by the SWHI in addition to the schooling

- Short-term and long-term goals

- Action plan for implementation

- Assessment strategies to find out whether goals are achieved or not.

The most important part of the IEP is the list of services identified for the SWHI. The success of education depends on these services, how well these are identified, planned and implemented. These additional services may include:

- Speech therapy;

- Support from special educator in language, literacy and concepts;

- ISL training;

- Subject teaching tuition;

- English as second language coaching;

- Physiotherapy;

- Audiological services;

- Ear mould services;

- Hearing-aid related services;

- Counsellor for the student or his / her family;

- Gym / swimming / karate / other sports related services;

- Drawing / pot painting / classical dance etc. hobby related services;

- NCC / NSS / scout etc.

For each of the services identified above, the resource teacher has to keep the planning ready in terms of following details:

- Objectives (in the areas like curricular, co-curricular, personality, communication);

- Strategies / Activities;

- Duration;

- Frequency per week with weekly schedule;

- Place;

- Provider;

- Fees / cost;

- Transport;

- Measurement strategy (Checking whether the particular service is fulfilling the objective or not).

The success of the SWHI depends on IEP and success of IEP depends on working out details. But for this to happen the IEP format has to be a truly individualized document. Look at IEP as:

- An opportunity creator for the student involving family, school, you and other service providers.

- A link between resource teacher, school and family.

- A learning process for parents since they are part of the plan making.

- A decision making statement. Some of the decisions could be very crucial like whether language exemption is to be taken or not or whether the SWHI should be exposed to signs or not.

- A document of the rights of the students since whatever services you and the parents decide to provide to the student; automatically become the rights of that student.

Do you see how powerful this tool called IEP can be – only if you use it carefully. For SWHI, the focus of the IEP has to be language and communication development along with personality and knowledge development. You have been given the format of IEP which you need to fill in for each of the SWHI.

PRACTICAL ACTIVITY:

(B15) Read and understand 5 IEPs of 5 students of different ages.

(B16) Read and understand 5 IEPs of one SWHI to review how objectives are achieved in step by step manner.

Individualized Teaching / Coaching to the SWHI

Your work related to tuning the school and empowering family are the tasks related to macro level changes. However, you also need to bring about the changes at micro level which means you are expected to coach the child individually. Divide your time and resources appropriately so that you pay attention to all the four aspects. In this chapter information on individualized coaching is given to you. Remember IEP and individualized coaching are related yet two different activities. The presence of the word 'individual' in both the terms may lead to confusion. IEP is multidisciplinary plan made for 6 months for a SWHI including assessment, services and activities. Individualised coaching on the other hand means actual teaching on one-on-one basis. It is also called pull out teaching because the SWHI is pulled out of the large group (classroom) and is placed individually for a particular time. Let us see what it involves to pull out the SWHI for individual coaching.

ACADEMIC SUPPORT TO SWHI

As has been said again and again, access to communication is the biggest concern of a SWHI. Even after all the factors are taken care of (the child is intelligent, sits on the first bench in the class, wears an appropriate hearing aid, the classroom is well lit etc); whatever has been said in the classroom may not reach him / her adequately. Due to this problem with access to communication the language, learning and literacy of the child are at risk of getting negatively impacted. Providing additional support in learning on individual level becomes essential in cases of the SWHI. This section gives you practical tips on holding these additional coaching on individual basis.

Please remember that arranging for Indian Sign Language Interpreters in the mainstream classroom is one of the alternatives whereby much of additional support may not be required. This however, has many difficulties. To begin with, the child may not know ISL. Moreover, interpreters are not available. This solution may not be cost-effective for a single child in a particular class.

As per the SSA norms and the key functions listed for an IERT, following are the work areas of a resource teacher which will help the SWHI in his /her learning process:

Areas needing additional coaching:

(1) Incidental Language and Text book Language:

Language is the major concern for a SWHI. Language generally does not develop automatically for a SWHI. One needs to plan it systematically of which the implementation

needs to be natural. Language text books of the schools are designed to teach literacy, grammar and literature to students who already know language. These language text books hardly teach language. But because the non impaired children already have command over language; learning literacy, grammar and literature through the prescribed text book is possible for them. Same does not hold well with the SWHI. There are no text books or books available to develop early natural language of a child. Teachers, parents have to do it using various techniques like: conversation; news; picture descriptions; stories; visits; directed activities; poems; experience talk; games, play; role play; etc. Using these techniques consistently and systematically age appropriate language can be developed.

How to develop language through these techniques:

The content of the activity should go from simple to complex. Through daily interactions new vocabulary, concepts, sentence pattern need to be introduced / taught to children. Stories, activities, games are user dependent tools. Teachers have to use them effectively. For example what concepts can you teach with the use of game of carom? Some teacher may just restrict the exposure to a few direct words like white, black, queen, sticker, powder, winning and losing. But there are infinite number of concepts which can be introduced to the child. For example, points, due, double due, aim, accurate, soft shot, hard shot, practice, perfect, rebound, turn, partner, penalty; missing the hit, strategy, plan, cheating, support etc. Content progression (going from simple to complex) is the key to success. The content of these activities should get more and more abstract and complex. When such a base is developed for communicative experiential and incidental language, SWHI will be able to understand and process text books more readily. Therefore, resource teachers should take additional coaching for developing incidental language. Always remember, the language of the non-impaired children gets more and more complex and rich naturally due to the Exposure, Environment and Experience (together can be called E3) related to language. SWHI do not get the constant flow of language input that the non-impaired children get. Parents, teachers have to make up for these gaps in SWHI's language development. In absence of adequate language, school learning and text book comprehension gets tougher year by year for a SWHI. Therefore individualized coaching must focus on development of experiential language which will create a base for text book language.

PRACTICAL ACTIVITY

(B17) Take any 2 pictures from the news papers / story books / magazines. Make lists of abstract concepts that can be taught through those pictures. OR Make your own interesting story to develop concepts of week / month, empty / half / full and distance / length for the students in pre-primary section or in 1st or 2nd std.

(B18) Observe 2 small sessions of individualized teaching: 1 for reading development and 1 for subject teaching

Facilitating learning of School Subjects:

In earlier point, we discussed development of language and language text book wherein the relationship of language with the text book was clear and direct. What role does language play in understanding of subject textbooks of History, Geography, Science, civics, Mathematics? Language plays major or rather essential role in understanding and processing of school subjects. Will you be able to teach science without using language? Obviously not. Language is the tool using which knowledge has to be gained (taken in); Processed; Stored; retrieved; updated; evaluated.

Because the language of SWHI in most of the cases is inadequate, it creates problem in all the processes mentioned above. Hence, as the parents and teachers work on language development, they also have to provide additional learning experiences for school subjects.

This additional support too has to be on regular basis since here to the content (subject matter) gets more complex year by year. Moreover, in curriculum and in textbooks, concepts are organized in a spiral way from basic advanced. If a student is not clear about the basic concepts his journey ahead is almost impossible. How long can one survive on memorizing without understanding? Hence, SWHI need additional support there and then as his / her classmates are learning the concepts / subject. During the individualized sessions, the resource teachers can work on school subjects through:

- Repeating learning experience of the classroom (re teaching the chapter);

- Adapting the text book matter to suit the needs of the SWHI;

- Adding more examples for better understanding;

- Taking practice for skill development (for example - solving sums, writing essays, spelling, tables etc.);

- Preparing the SWHI before the class teacher introduces a unit / topic;

- Working on examination related skills;

- Assisting in organizing the learnt subject matter (note making).

Such additional coaching helps SWHI to be at par with the non-impaired peers. They gain confidence and get more learning opportunities which they require because of the nature of impairment. Therefore, subject teaching along with language development should be the objective of the individualized coaching.

Facilitating Literacy Skills:

Because Indian school system does not treat language and literacy separately; we often mix them up. In most of the developed educational school systems language and literacy (or reading) come

as two separate school subjects. Like language, literacy is the backbone of school system. Whether it is language, science, social studies or even co-curricular subjects, much depends on how well the child can read and write. In modern world today the role of reading/writing is ever increasing. This reflects in curriculum planning of schools. Developing good reading writing skills is one of the focus areas of schools. All this holds well with children with or without impairment.

For a SWHI however, reading writing is more important than the non-impaired children. First of all if the SWHI has problems with listening and speaking (which many of them do), reading / writing come handy as a mode of communication. Secondly, as said earlier, SWHI do not have adequate access to whatever has been said in the class by teachers. In such a situation learning becomes difficult. But if the SWHI has command over literacy, then by doing independent reading (of text books and other books) they can compensate for the loss of knowledge which the other children gained through listening. Literacy development therefore needs to be planned, implemented and monitored systematically. Chapter B 8 gives detailed information on this topic.

Important points to be noted about Individualized additional coaching: Individualized additional coaching is needed for almost all the SWHI who are studying in mainstream schools. But the needs will differ as per the age, standard, level, type and nature of hearing loss. For better results individualized additional coaching has to be taken seriously and few points have to be understood well.

(1) Have a systematic, moderately rigid and consistent schedule for reach of the SWHI in the school.

(2) Note the word 'additional' in the sentence above. This individualized coaching is not in place of classroom teaching - it is over and above the classroom teaching.

(3) Therefore the individualized sessions should not be scheduled during school hours. Mostly these are scheduled just before or after school hours.

(4) SWHI, many a times are pulled out of the classes for individualized sessions during break, PT period, drawing or other such periods of co-curricular activities. This is quite incorrect since break, prayers, assembly, co-curricular periods etc are equally important school activities of which the SWHI must be a part.

(5) The frequency of these individualized sessions may vary student to student. However, ideally each student should at least get 3-4 hours individualized coaching per week.

(6) Involve parents in this effort. Let them be either observers or be part of the sessions. Educated parents can be given tasks to complete which will empower them.

(7) The word individualized suggests that the coaching has to be one-on-one basis. However, if 2-3 SWHI are studying in same standard and are at comparable levels, they can be taken

together for coaching. One-on-one sessions of longer duration can be tiring. If there are 2-3 students together then the learning environment is much relaxed and positively competitive.

(8)   Individualized coaching sessions should go hand in hand with whatever is happening in the classrooms. At the same time the objectives / activities should adhere to the formulated IEP.

(9)   Lastly and most importantly, these sessions should be planned thoroughly and implemented systematically. Monthly objectives need to be stated clearly. Ongoing evaluation of the learning is important.

(10)   If required and more importantly if available, each SWHI should get speech therapy on regular basis. However, these sessions are different from the individualized additional coaching sessions.

Communication Options: Sign Language, Total Communication, Oralism

In the section A8 we learnt about the communication concerns (commonly used term is 'problem' but we will avoid that negative term here) and challenges of SWHI. In this section we are going to see the solutions for these concerns.

Solution to the Communication Concerns:

The one line solution is to ensure early adequate language base which will facilitate communication, cognition, education and socialization. How to ensure that? The answers are quite logical and simple. Please read the summarized three statements at the end of the chapter A8. The solutions are hidden in the 3 statements given there. One can unlock the communication barrier by taking care of the **3 'if's** in the three statements.

Figure #4: Ways to create language base
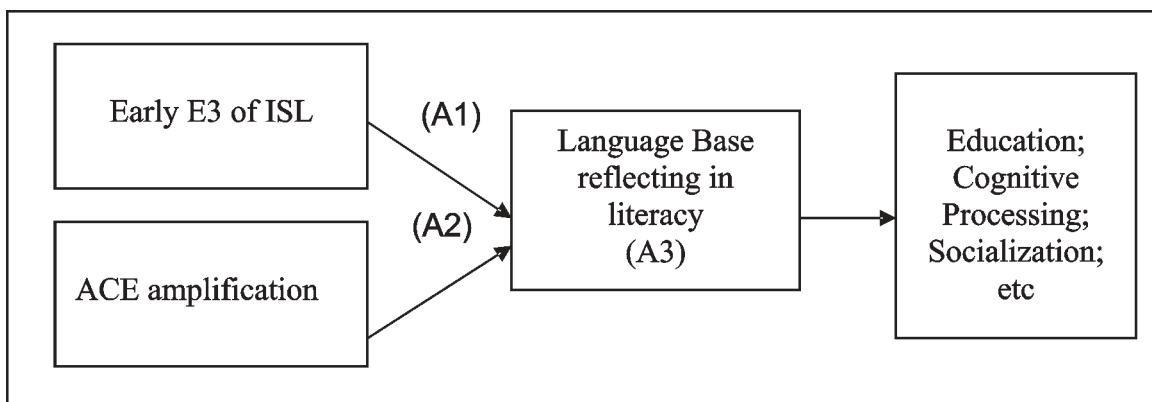
If families and early intervention programs either provide A1 or A2 to children at a very early age, age appropriate development is not a concern for the SWHI.

A1 and A2 indicate easy, early, complete access to communication. We often use the terms access and barrier with reference to wheelchair-bound person or individual with blindness. In that context the term access refers to physical or bodily reach. With reference to deafness it is obviously not the body of the individual which cannot reach some place but it is the thoughts of one person getting restricted in reaching the other person through language. What could you do as resource teacher in minimizing this barrier and ensuring access to communication to the students you are accountable for?

(1) Understand the three existing options carefully. (They are explained little later.)

(2) Review each individual case in terms of: what is being currently used for communication by the child? Be careful! What the child actually uses may not fit into the three theoretical options described here. You will have to steer the child to one of the three options.

(3) Review whether the level of functioning of the particular SWHI is age appropriate (at par with non impaired classmates?)

(4) Within the framework of family, school and your resource unit, which of the three options is REALISTICALLY POSSIBLE for implementation? (At this point you may have to pragmatically consider which option is APPROPRIATE and which option is POSSIBLE. It is ideal to aspire for providing appropriate option but it may not be possible always. In that case look for what is possible and provide that systematically and consistently.

This simply means select one of the following three options on the basis of availability of technology, services and training. You could use following table to help you decide. Option A = Oralism; Option B = Use of sign language (educational bilingualism); Option C = Total communication

S.No.	Availability	Option A	Option B	OptionC
		* ACE Amplification	** E3 of ISL	Combination of ACE amplification & Sign System
	Can you arrange for technology required for this option?			
	Can you arrange post selection support service, required for this option?			
	Can you arrange for training of family, teacher classmates required for this option?			
	Can you motivate family to use this option at home?			

* ACE amplification = amplification which is appropriate, continuous and early

** E3 of ISL = Environment, experience and exposure to Indian Sign Language.

Please put: 'Yes' OR 'Probably' OR 'No' in all the 12 blocks.

Assign 2 marks per 'yes', 1 mark per 'probably' and 0 mark per 'No'.

Make the total of all the three options. The option that gets maximum score is the option you may select. Wholeheartedly try to give best condition for the option which has got highest score.

REMEMBER: You could use this table for every child or use this table for evaluating your school system once and offer the highest scoring option to all the students, in that particular school. Ideally, a resource unit along with school and family should be able to offer all the three options for the families to select but even if you are able to provide only one option to all the SWHI consistently, efficiently and systematically consider yourself as a big achiever!

THE THREE COMMUNICATION OPTIONS (METHODS)

Let us understand the three options briefly strengths of oralism (if it is successful with a SWHI).

What is Oralism: Because this method uses only the (aural) oral mode, it is called Oralism. Oralism considers aural (listening) oral (speaking) mode to be the primary mode of communication. The child uses the best possible hearing aids and is given exposure and training for comprehending language through listening. If children, parents and teachers are collectively successful in their listening training, like the normal hearing non-impaired children, many hearing impaired children too develop adequate spoken language. Listening skills and spoken skills help these children learn literacy and school subjects. Some programs allow speech reading as a support to auditory input some do not.

Strengths of using Oralism:

■   Command over speech is expected to lead to better social acceptance and participation.

■   Command over speech is expected to lead to easy learning of literacy.

■   Command over speech is expected to lead to independent communication (No need of an interpreter).

■   Command over speech is expected to facilitate educational mainstreaming.

Concerns of Oralism:

■   How much ever best amplification, it needs to be supported with rigorous training which SWHI in India do not get commonly.

■   The technology of the hearing aids have progressed a great deal but its reach to Indian SWHI is far from being satisfactory.

- Oralism requires continuous rigorous training and a lot of struggle for basic communication. This, many a time negatively impacts the personality of the SWHI.

- Progress of Oralism is known to be slow and tedious. Many a time, SWHI miss out on the critical age due to this slow improvement. Later it becomes yet harder to get command over adequate language and speech.

What is Educational Bilingualism? (Use of ISL): Considers the visual manual mode to be the **primary** mode of communication. Sign language is considered to be the FIRST language of the children. Verbal language of the society (Marathi, Hindi, Tamil etc) is considered to be the second language to be learnt in the school. Speech reading (lip reading) is mostly used as a **support** system particularly when the communication with hearing or non-signer is carried out. Those who advocate the use of sign language (Indian Sign Language – ISL) believe that visual manual biological system of the child with deafness is ready-to-use and can function as efficiently as the auditory oral system functions for a hearing child. Sign language can function like the first language and creates basic language competence for the child.

Strengths of using Sign Language (Educational Bilingualism)

- Since SWHI are biologically tuned to process visual manual language, language development takes place more rapidly.

- If language development is age appropriate, then development of literacy, knowledge and personality are (almost) automatically taken care of.

- Since visual communication is easier and natural for SWHI it saves them a lot of struggle and gives satisfaction and pleasure of communication. This has positive impact on the personality of that SWHI.

- Contrary to popular belief that use of sign language will come in way of mainstream education, it actually facilitates and strengthens inclusion.

Concerns of Educational Bilingualism

- 95% of SWHI are born to non impaired parents who do not know sign language. How will they expose the child to sign language in early years? This creates the biggest barrier in using sign language with the child.

- Training avenues for learning sign language are extremely inadequate in India.

- Sign language makes SWHI dependent on the interpreters.

The third option which is **Total Communication** is a combination of the above two options and hence strengths and concerns of that option too are a combination of the two. TC considers aural

(listening) oral (speaking) mode to be the **primary** mode of communication. Sign system is used SIMULTANEIOUSLY ALONG WITH aural/oral mode. The communicators use speaking and signing or listening and seeing at the same time. Speech reading (lip reading) is mostly used as a **support** system.

PRACTICAL ACTIVITY:

(B19) Select 2 SWHI and prepare their communication profile. Fill in the checklist given in table 2 for these 2 students and make a report on the decision taken about their communication.

(B20) Arrange a short session on finger spellings for the classmates of the SWHI.

(B21) Invite a deaf adult to interact with the classmates on various communication options.

Literacy: Development and Evaluation

We have seen in the chapters A 7 and B 6 that although hearing loss has nothing to do directly with literacy development and functioning; in most of the cases of deafness, literacy does get negatively impacted. This is due to basic inadequacies of language and communication. In this part we are going to see what a resource teacher – with the help of teacher and family, can do to facilitate literacy development of the SWHI. For this however, let us first understand what reading and writing skills are.

Reading/writing: Language based reception / expression of ideas and thoughts achieved by the medium of a shared script, which reflect shared language, context and the world knowledge. This means, reading / writing are not mere understanding and creation of script. Reading / writing is not conversion of spoken thoughts into a graphical thought. It is understanding and creation of independent thoughts.

Sharing the script in itself is extremely essential but is not the only essential prerequisite in the process of writing (and reading). Writing is much more than penning down a set of alphabets on paper. For example, read the following sentence:

Ich bin Lehrerin Van Beruf

This sentence uses Roman (English) script, which you already know. Could you understand the meaning? No, because sharing a script with the writer is not enough for you as a reader. You do not share German language with the writer and hence meaning is inaccessible for you. If a sentence is:

I am a teacher by profession

You will be able to read (understand) the sentence because you not only know the script but also share the language. Thus reading and writing is not possible without the adequate, age appropriate

knowledge of the language for which the script is used. Hearing loss impacts language development and language functioning. As a result, very often the SWHI has inadequate language. This inadequacy of language in turn impacts the literacy skills of the SWHI.

How are these inadequate literacy skills of the SWHI relevant to you as a resource teacher? Why do you need to know about them?

First and foremost you must understand that literacy is the backbone of the school system. Those who have literacy concerns will have serious challenges to move ahead in the ladder of standards in the school. Hence, they automatically become at risk for three conditions which are not desirable educationally. These conditions are:

■ dropping out of school due to consistent failure;

■ getting passed every year not because the SWHI deserves to pass but on the grounds of unjustified sympathy;

■ SWHI being pushed ahead from one standard to the next one on the basis of unwanted concessions.

Another most important issue you must remember is the impact of inadequate literacy on text book learning. Many students who do not understand in the class or miss the class have their text books to fall back on. They can read text books to support their own learning. SWHI may find it difficult to carry out independent self-learning due to his/her literacy inadequacy. Considering the importance of literacy in education, communication (and life in general) it is necessary that educational support devotes a lot of time, planning and resources towards literacy development.

Tips to develop Literacy Skills in SWHI:

To begin with let us understand that literacy means INDEPENDENT reading (comprehension and not mere loud pronunciation of the text) and INDEPENDENT writing (expression of thought and not mere copying or penning down memorized lines). SWHI have to be taken from guided / assisted literacy skills to independent literacy skills.

Most of the points we discussed about language in the first point are true with literacy. Literacy is experience and context bound. If it is developed through pleasurable activities / games / exercises SWHI learn it more readily. All the techniques which are described earlier for developing language can be further used for literacy development. The best method to develop reading / writing in SWHI is to expose them to written material which is graded as per their levels. This does not mean that the material should be unnecessarily simple.

This material should be able to take them one step ahead in complexity. Reading / writing material may include readymade and custom-made material like:

- Text books (of all the school end examination boards);

- Story books / comic books;

- News paper, magazines;

- Personalized notes to teachers / parents / classmates;

- Captioned movies;

- Greeting cards;

- Advertisements;

- Manuals of phones, ovens, washing machines etc;

- SMS text messages;

- Rules of games;

- Road maps;

- Recipes;

- Railway / airplane / bus tickets;

- Matter on packed food / grocery;

- Menu card;

- Joke books;

- Encyclopedia;

- Bill boards / banners / hoardings;

- Instruction boards at gardens, theatres etc.;

- Telephone / electricity bills;

- Purchase receipts;

- Registers and records;

- Specially created albums with written material;

- Specially created scrap books / experience books;

- Specially created vocal books;

- Daily diary etc.

Particular steps while taking reading activity: Type I (Unseen/ in experienced passage)

- Sit with the student.

- Read a particular number of lines (as per the level of the students). Either read together silently or let the student read after you.

- Discuss the matter and encourage him / her to ask, answer, describe, comment, agree / disagree etc. on the matter.

- Explain new concepts.

- Show similar examples of sentence types.

- Ask questions to ensure he / she has not missed the details.

- Link the information with previous knowledge.

- Repeat the steps with next few lines.

Particular steps while taking reading activities (Type II) Familiar content:

In type I we made the SWHI read the lines first and then discussed / explained the content. In type II the teacher first develops the context by telling what the lines are about. Explain a few concepts, discuss with the child and then let him / her read the lines.

Both type I and type II are good tools of learning. Both have strengths and hence students should be exposed to both.

Dos and don'ts for better reading activities:

- Never restrict the material to word level. Even if the SWHI belongs to pre school the reading material should be in sentence form. The key word could be highlighted with underline, coloring etc.

- Never work on vocabulary lists (of animals, vegetables, flowers) without context.

- Never over-do speech correction while the focus of the activity is reading.

- Be tolerant of mistakes. Students hesitate going on to complex level if teachers are non-tolerant of mistakes.

- Reading does not always mean understanding every bit of the written matter. Overall understanding too helps many times. "If you need to read, read all the details or don't read" is not the right attitude.

- At preschool level one must encourage the habit of scanning picture books, flipping comic

books, sitting together to read magazines etc. This builds readiness before the child starts learning the actual reading.

■ Link reading activities with school subjects. Reading activities can be used in both the ways: to reinforce learnt knowledge or to build readiness for the knowledge to be learnt. This is important for SWHI since it helps him/her in understanding school subjects and also in developing reading.

Although reading and writing are closely linked, these are essentially separate processes. Hence, developing independent writing is discussed separately. However, please keep in mind that the point raised above for reading holds well with writing too.

PRACTICAL ACTIVITY:

(B22) Take a page-long text from History or Science text book. Prepare assessment exercises on that to assess the reading comprehension of the students.

Tips to develop writing:

(1) Give the child ample opportunity to write his / her own thoughts rather than make him / her only copy or reproduce by hearted matter.

(2) Link development of writing with reading, listening – speaking (or signing), context and experiences. Teachers always want to make tasks simpler for students - the simplest way to make tasks simpler is to link it with meaning and context. Teaching writing – for that matter, teaching anything without context or pragmatic background cannot fetch good results in long run.

(3) Use feedback to facilitate learning. Children's writings need to be responded with feedback. This feedback has to be:

■ Clear

■ In detail

■ Indicative of higher expectation

■ Appropriate

■ Immediate

■ In writing

■ Consistent

■ Objective

■ Pro-active

Each of the qualities mentioned above is essential for feedback to facilitate learning. Feedback is the **strongest link between assessment and instruction**. When followed by feedback, assessment gets converted into instruction. Feedback is important educationally since it raises the bar of learning. You know most of the qualities of the feedback mentioned above. The quality 'pro-active' needs some explanation. This means showing 'what is expected' while telling 'what is wrong'. Correct model needs to be presented for the child. Telling 'what not to do' without showing 'what to do' is of no use. For example, if a child writes "As soon as the thief ran behind ran police". The ideal detailed pro-active feedback will be teacher writing the correct model - "As soon as the thief ran the police ran behind him".

(4)   Make writing enjoyable and communication oriented rather than task-oriented.

(5)   Develop the habit of self-editing. Many times, looking at the writings of the children one can hardly know his / her current level of language competency. The teacher is confused about whether an error committed by the student is an error of accidence or is an outcome of incorrect knowledge of language. If the children are made to edit their own writing, correcting their inner language structures becomes possible. Initially teachers can mark the sentences, parts where modification is required. This can work as a clue to help him/her edit the overall write up. Further step down clue would be giving the child a close set of options for correction to choose from. Before this too, teacher can show the students a model of self-editing by making students observe teacher carrying out self-editing.

(6)   Carry out assessment of writing. Separate writing assessment needs to be carried out by the teachers on regular basis. Assessment of language or assessment of language text book cannot be considered as writing assessment. There is a difference between assessment of language through writing and assessment of writing. Like any other ideal assessment, writing assessment too has to be carried out systematically, consistently and objectively.

(7)   Involve parents in the process of writing development. As said earlier, writing needs to be developed in connection with context and real life situations. Home environment is rich from this point of view. Providing training to parents on follow up activities on development of writing is highly recommended.

PRACTICAL ACTIVITY

(B 23) Collect independently written language sample (picture description, story, essay etc) of 2 WSHI. Score the language for parameters like number and type of errors, number of simple and complex sentences, number of adjectives / adverbs used.

Use and Maintenance of Hearing Aids

The major concern of a SWHI is communication and language. The best step to overcome the concern is to provide early and natural access to communication. Two of the ways to provide such

access is to expose to sign language or give ACE hearing aid with training. ISL (Indian Sign Language) is not being used by a big number of SWHI due to several reasons. Most of the SWHI that you come across are dependent on hearing aids (and lip reading) for communication. You therefore must know a great deal about the hearing aids and their use. This chapter will empower you for knowing hearing aids better.

TYPES OF HEARING AIDS

(BTE) Behind-the-Ear

Pocket Model:

It is worn in a pocket or harness at chest level. It consists of the body of the hearing aid containing the microphone, amplifier and controls. A cord transmits the electrical output to a receiver, which converts this signal into sound. The receiver is attached to a mould, which holds it in place. Please see the pictures below. The first one is the pocket model or the body level hearing aid. The second one is the BTE (Behind the Ear). The third picture shows how the BTE looks when it is worn by an individual.

Behind-the-Ear Hearing Aids:

Behind-the-ear hearing aids include a component that rests behind the ear. It is attached to an earmold that rests inside the ear canal and conducts sound to this aid which then amplifies it in your canal. These kinds of aids are recommended for all ages of any level of hearing loss. Though they are the largest of all the types of hearing aids, and therefore the most visible, they are easy to adjust and are often the most powerful.

In the Ear (ITE):

When the complete hearing aid is worn inside the ear or ear canal it is called an ITE. The hearing aid is housed in a hard plastic shell which is often custom-made by taking an ear impression.

CARE AND MAINTENANCES OF HEARING AID

- Prevent hearing aid from falling down.

- Don't let the liquids spill on the hearing aid.

- The hearing aid should be fitted well – pocket model aid in a harness and BTE with appropriate moulds and retainers if needed.

- Cords should not be twisted or knotted.

- Protect it from dust, dirt & heat.

- Remove the battery from the hearing aid when it is not in use for a longer time.

- Moulds which hold the hearing aid in the ear need cleaning regularly. Remember to detach the earmould from the receiver before washing the mould. The receiver should not come in contact with water.

What could you do as a resource teacher to ensure effective use of hearing aid?

- Understand the parts and functioning of the hearing aid well.

- Help classroom teachers, and family members understand basic facts about the hearing aids.

- Orient the classmates well about it since classmates may have basic curiosity, ignorance or misunderstandings about the hearing aids. If they do then it will negatively impact the education and class participation of the SWHI. Let the classmates actually handle, experience the hearing aid so that their curiosity is satisfied. Request classmates and teachers avoid teasing the SWHI over the use of the hearing aid.

- Ensure the minimum classroom noise level so that the SWHI will draw the maximum potential benefit from the hearing aid.

- Encourage class to have basic discipline in terms of taking turn while responding to teacher or discussing. Several times it is seen that the class has the habit of talking simultaneously or by cutting each others. SWHI with a hearing aid finds it very confusing and stressful to keep a track of communication during such a multiple partner conversation.

- Encourage the class teacher or the bench mate of the SWHI to check whether the SWHI is coping with the class conversation.

- In addition to hearing aid the SWHI need a good support from lip reading and black board writing. Ensure he gets the opportunity for the both.

Learn simple trouble shooting and minor repair of the hearing aids so that the SWHI does not waste time in sending it for repairs for minor problems. However, when not sure please do not try repairing it.

- Keep a track of changing time of batteries, cords, moulds etc. You can have a record and calendar maintained for it – especially for the young SWHI.

- BTE hearing aids are better than the body level hearing aids. Assist the family to buy the BTE. Try to arrange for donors or approach funding agencies for that.

- Have basic information of cochlear implants which is the latest alternate technology in ensuring better auditory input for the SWHI.

Hearing aids can be the best friends of the SWHI and you can play major role in helping all have positive attitude towards it.

PRACTICAL ACTIVITY:

(B24) Obtain information on 6 sound test used for checking the effectiveness of the hearing aid on daily basis. Learn the simple steps to carry out this small but useful test. Help class teacher and family members learn it.

(B25) Give a demonstration to the family members on 'how to clean the ear moulds'

Auditory Training

The most commonly asked question is – the child wears a hearing aid which means he can hear then why cant he / she speak? Yes, the hearing aid helps the child to hear better but to make sense of what he has heard the child needs long-term, systematic and rigorous training. The child will be able to talk age appropriately only if he / she gets such a training. Hence auditory training becomes the key pre-condition for the success of a child to listen and speak.

Auditory training is an integral part of the curriculum in education of the SWHI. Auditory training is nothing but the training given to the person with hearing impairment, to detect and interpret the sounds which he hears. Without auditory training, devices like hearing aids are not very useful to a SWHI. Most of the SWHI have some amount of residual hearing and this residual hearing can be exploited only by giving auditory training. When this is done systematically and at the earliest it facilitates language and speech development as it draws benefits from critical period.

Remember, we listen with the help of our brain; our ears only transmit sounds to our brain and the brain interprets them. When the sounds reaching our brain are inadequate or incomplete they may be very difficult to interpret. That is why SWHI needs to be trained to listen. This training is conventionally called the auditory training.

One may think that after giving a hearing aid to the child why does one still need to give auditory training to the SWHI. It can be explained this way, when a person with a hearing impairment wears these devices the initial response may be quite confusing as signal which reaches the listener is absolutely new and the attributes of the signal may not remain exactly the same after amplification. So, he / she requires auditory training. Over time, auditory training allows the person to discriminate between different sounds and attach meaning to sounds. Without auditory training, devices like hearing aids are of very little benefit. In short, "a systematic procedure designed to increase the amount of information that a person's hearing contributes to his total perception" .Auditory training is a procedure that systematically and individually exploits whatever amount of residual hearing is available.

One must remember that auditory training helps to **improve the person's ability to use what he hears but does not improve the hearing sensitivity** by itself. Even when the amount of residual hearing is small auditory training should be given.

The most commonly followed approach to auditory training is the traditional approach, which describes four levels of audition that contribute to the perception of conversational speech. These are:

■ Detection: Detection requires the child be able to indicate if the sound is present or absent. It is a basic step which must be acquired before the child can be taught to associate the sound and its source.

■ Discrimination: Discrimination involves the person to distinguish whether the sound is same or different. In this the person perceives the difference between the different acoustic features of sound like intensity, frequency, duration

■ Identification: Identification requires the child to recognize the speech signal and to be able to identify it in some way such as pointing to a picture/object, writing the word or syllable heard or repeating the stimulus

■ Comprehension: Comprehension is nothing but understanding the message at a cognitive and linguistic level. The child may demonstrate comprehension by answering questions or performing an appropriate task. It is a prerequisite for communication.

STEPS OF AUDITORY TRAINING: Educators will have to consider a few things before planning AT sessions. Please look into the following points before setting your objectives and activities.

(1)   Child's residual hearing (This can be found out with the help of pure tone audiogram)

(2)   Child's aided audiogram- The aided audiogram tells us the minimum levels of sound that the child can hear through the hearing aid at normal conversational distance approximately one meter. The aided audiogram within the speech banana means that the child will be able to

hear all the speech sounds .A good aided audiogram doesn't ensure that a child will be able to understand all speech but it does give the teacher an idea what sounds child is capable of detecting.

(3) SWHI's response to Ling's six sounds test- Teacher can quickly administer Ling's six sounds test to get an idea about the child's ability. (These include noting down child's responses to 6 sounds – aa, ee, oo, s, sh and m.)

(4) Child's present level of auditory functioning –One has to take into consideration which skills the child has already acquired.

(5) Apart from this, the teacher has to know the working condition of SWHI's hearing aid.

BEFORE YOU START THE SESSION:

(1) Keep environmental noise to the lowest possible level.

(2) Keep material ready and make appropriate seating position – some time it is face to face but when you want the student to depend only on listening and take no support from lip reading then the sitting will be side-by-side.

(3) Carry out Ling's six sounds test to see if the hearing aid is functioning ok or not.

(4) Familiarize the activity. Let the child know very clearly the expected response from him. A demonstration involving parent or classmate will help to a great extent.

(5) Once SWHI understands what he is expected to do, you can have one more trial by not giving any visual cues. This can be done by asking the child to close his eyes while listening or by asking him to turn around so that his back faces you.

Whatever is taught in auditory training session the ultimate aim should be to integrate these skills into daily life.

AUDITORY TRAINING DOES NOT MEAN MAKING CHILD LISTEN TO GROSS SOUNDS OR ONLY USE DUSTER, BELL, RATTLE AS STIMULI

Some parameters one can take into account to select the auditory stimuli are:

(1) Length of the word or sentences
(bullockcart versus pool)
'I went to the garden with my friends'. versus 'Rahul ate an apple'.

(2) Syllable difference in words
Milk versus ta ble versus umb re lla

(3) Words with different vowels
Pan versus pin versus pen

(4) Words with different consonants
Cat versus pat versus rat

(5) Long/ short/intermittent sound of an object
Coooooooooooo versus Coo versus Coo—Coo —Coo

(6) Loud sounds /soft sounds/whisper

(7) High pitch sounds/low pitch sounds

(8) Sentences with stress on different words
I don't like big balloons.
I **DON'T LIKE** big balloons.
I don't like **BIG BALLOONS.**

(9) Sentences with different intonation
Will Ritu come for the wedding tomorrow?
I love jalebis.
Wow! What a great win it was for India!

Plan activities on identification taking into consideration following parameters –i) syllable difference ii) Intonation difference iii) sentence length

Auditory training is very crucial for the listening of the child and listening is very crucial for speaking. Auditory training thus helps in improving overall communication of the SWHI.

PRACTICAL ACTIVITY:

(B26) Take the text book of 3rd std and make a list of words and sentences which can be used as stimuli for an auditory training activity. There could be differences among these words / sentences on the basis of length, intonations, loudness etc.

(B27) Carry out 6 sounds test on 3 SWHI

(B28) Observe 2 small auditory training sessions involving simple commonly used sentences.

Speech Trainer and Loop Induction System

Speech development of the SWHI depends greatly on 'what he / she gets to hear through the hearing aid'. Therefore, families try their best to ensure better auditory input. As said again and again in this manual, ACE (Appropriate, continuous and early) hearing aid with training is what is desired by all of us. Over and above that there are other ways which give better input. For example, Hard-Wire group amplification system (which you get to see in many schools for the deaf), FM amplification, loop induction or speech trainer. We are going to understand two of these devices

since these are the ones which are appropriate for a mainstream set up: speech trainer and Loop Induction System.

Speech trainers are very commonly used in special schools for the deaf in India. It is very useful for the one–to-one teaching situation and hence can be used very effectively in mainstream schools like yours. Let us know more about it so that you will be able to use it while working with your SWHI.

Speech trainer is an assistive device which amplifies the sound and thus, helps person with hearing impairment to perceive the sounds better. It is like a large or master type of hearing aid. Speech trainer can be used for a child with any degree of hearing impairment as per the need of the SWHI; as it has the provision to adjust the intensity of the sound with the help of volume control. Small portable type of speech trainers are available commercially today which educators of the deaf can use during speech teaching or auditory training sessions. Parents of SWHI can also opt for this type of a device to give speech training at home.

Speech trainer has mainly following parts:

(1)   Microphones: It has two mikes. These mikes may be inbuilt or attached externally. Microphone converts sound into electrical energy.

(2)   Amplifier: This part is inside the speech trainer, it has a function of increasing strength of the signal which means it makes the sound louder.

(3)   Headphones: There is a set of headphones, these are usually circum aural types (bulky).These headphones act as a transducer and convert the amplified electrical signal back in to sound.

(4)   On off switch: This is used to turn the instrument on or off

(5)   Volume control: It has independent volume control for right ear and left ear so the user can adjust it independently.

Apart from this, speech trainer also has gain control to adjust the overall gain of the instrument and tone control (N/L/H) to get specific low or high frequency emphasis of the signal. It has a wide frequency response curve. While in use the amplification level is kept 30 dB above the pure tone average.

MERITS

- It has high quality amplification due to better signal to noise ratio

- It has maximum output level of 140 dB

- Apart from giving good auditory input it can also be used to give visual cues to the child with Vu meter and LCD lights

- It is portable, easy to handle, can be used for CWHI with any hearing loss

- It can be useful while giving auditory training, speech teaching.

DEMERITS

- The headphones are bulky not very comfortable for children at least at younger age. But one of the solutions to overcome this limitation is to give breaks to children while having longer sessions so that the SWHI will be able to remove the headphones.

- Due to cords and headphones mobility gets affected. This means the activities which require younger SWHI to do some actions (directed activity, craft, learning by doing, act out games etc) cannot be taken with headphones on. It can be used only in the typical 'table-chair' learning situation.

In Indian situation where many parents of CWHI find it hard to give their child most suitable hearing aid due to economical reasons, speech trainers can be of big help for the teachers. They can use it and continue the efforts of developing auditory and speech skills of SWHI. Moreover, it is also useful since many times the schools are very noisy. Amplification through individual hearing aid may prove less beneficial in such noisy environment. Speech trainer can be used for developing specific features at the time of speech correction or auditory training in isolated situation. The SWHI can then be taught to generalize learnt skills through the day.

PRACTICAL ACTIVITY:

(B29) Listen through a hearing aid and a speech trainer for 5-10 minutes and make a list of the difference you noticed in the quality of amplification.

As you are aware amplifying sound is one of the needs of the SWHI. This amplification can be provided through individual hearing aids which the children wear. However, this amplification can be provided to a group. There are many types of group amplification systems: Loop Induction system is one of them. It can be used in - Auditoriums, Classrooms**,** Court rooms, Meeting rooms etc**.**

LOOP INDUCTION SYSTEM (LIS)

What is it?

A loop induction is a wire attached to an amplifier that is installed around the perimeter of a room. This wire creates a magnetic field that broadcasts sound in clear, undistorted form. This sound is transmitted directly to the people who are located within the loop & have a Hearing Aid with Telecoil. It is the preferred Assistive listening system because it offers a high quality, cost effective & unobtrusive solution for those who experience difficulties in various listening situations, both public & private.

It consists of:

i)   Amplifier : Which makes sound louder

ii)   Microphone : Which receives sound

iii)   Telecoil

iv)   Individual hearing aid with T- coil which is worn by a CWHI.

Advantages of LIS :

(1)   Large area Assistive listening solution: *Wherever the child moves in class he will get benefits of amplification.*

(2)   Automatic volume control, thus no setting required.

(3)   Automatic Volume control, gives clear & sharp voice. :

(4)   Pick up restricted to area of Loop.

(5)   Light weight & compact.

(6)   Simple to set up & use.

(7)   Customized to listeners personal Hearing Loss.

(8)   Excellent sound reproduction.

(9)   Maximizes effectiveness of Hearing Aid.

(10)   No messy cords. : *(Like other options of group amplification has hard wires. But LIS does not have cords so CWHI can move around).*

(11)   Its ability is that many may utilize the system.

(12)   It is a cost-effective. (Approximately 8000/- for one classroom)

Benefits of Loop Induction System (LIS) to Hearing Aid users:

(1)   CWHI will improve listening clarity and understanding.

(2)   CWHI develops and improves his knowledge through auditory channel.

(3)   CWHI students will listen the response of other students.

(4)   CWHI child will be able to listen the instruction and act accordingly.

(5)   It will be more beneficial in pre-primary classes where lot of activities are carried out.

How to check your LIS in inclusive set-up

(1)   Dictation: Ask the SWHI to write down the dictated words to find out how efficiently the amplification is working for him / her.

(2)   Map – Reading: Ask the SWHI to show the places / direction in map through audition.

(3)   Ask the SWHI to follow your instructions i.e. Distribute the drawing notebooks, show the students from Roll No. 10 to 25, turn off the second fan to your left etc.

PRACTICAL ACTIVITY:

(B30) Arrange visit to special school of Hearing Impaired and observe the classes with different group amplification: Hard Wire, LIS, FM System

(B31) How will you ensure that the SWHI is able to listen to what the teacher is saying? Write down the tips for tuning the classroom environment which are important to follow while ensuring better amplification.

Teaching Learning Material (TLM) for School Subjects

We are aware of the role of senses in learning. They are the gateways of learning. It is indicated that 11% of what is learned is from the sense of HEARING and 83% is learned through SIGHT. This is the case of children who do not have any disability. Think about the children with hearing impairment. Does an instructional activity in a classroom without a single TLM would help a student in learning? Where do we need to support the learning of these children? Obviously, we need to address the 'sight'. Teaching process combined with the sense of seeing and doing will help in effective learning in all the children in general and SWHI in particular.

As teachers, we all know that teaching learning materials enhance learning process. Teachers can conduct the teaching process effectively with the help of appropriate teaching learning material. Learning through the aid of pictures or other visuals creates a better understanding in the minds of the learners. At the same time, TLM discourages memorization as a technique of learning since it facilitates comprehension. Therefore, teaching learning materials are used in schools or wherever learning interactions are carried out.

Role of TLM in inclusive classroom: In an inclusive classroom the role of TLM is more valuable. In earlier conventional educational system the students were classified as per their needs and hence curriculum and TLM were specific to the needs of the students. With inclusive philosophy today the classrooms have students with diverse needs. Their family support, abilities/disabilities and learning qualities differ from each others to a great extent. For such a class what is required are flexible classroom strategies and strong support from appropriate TLM so that all students benefit from the teaching. In a classroom where students are from various language backgrounds and

religions and some of them have disabilities; keeping the pace of learning is bound to be little difficult. Appropriate TLM will facilitate teachers in bringing students at one learning platform.

Why are TLM used?

- To draw attention;

- To hold attention for a longer time;

- To provide stimulating variations while learning;

- For sustaining interest;

- For comprehension of key concepts in terms of clarity, co-relation, coordination and interconcept relationships;

- For making abstract concepts concrete;

- For making complex concepts simple;

- For better retention;

- For better conservation of ideas (verbal discussion is useful but that is wiped out after it is over. TLM on the other hand will remain in the class for quite some time.);

- For modeling creativity.

We have seen the impact of hearing loss (rather inadequate language) on learning. We have seen that inadequate language foundation may negatively impact the cognitive processing like interpretation, retention, recall etc. It is needless to mention that use of appropriate teaching aids is one of the ways to deal with these inadequacies.

TLM has several benefits. These hold well with children with and without disabilities. Proper use of TLM:

- reduces the boredom of 'chalk and talk' method

- motivates the students and they become attentive

- clear images are formed when we see, hear, touch, taste and smell as the experiences are direct

- encourages learning through senses naturally

- provides opportunities to handle and manipulate based on learning by doing concept

- helps in retaining the concepts

- helps in fixing up new learning

- saves energy and time of teachers

- provides reinforcement to learners

- ensures meeting individual differences among children

When to use TLM

It is a great misunderstanding that a teaching aid is used only at the time of hard core instruction activity. However, remember the TLM can be and must be used at all the steps of the teaching learning process: Introduction, Imparting knowledge, Recapitulation, Assessment, Home work and Follow up.

Teaching of History and Geography

Teaching of history and geography can never be effective without visits to places of importance, valleys, lakes, old forts, museums, monuments etc. Usage of maps while teaching geography helps students to learn and relate. Students get a correct idea of various minerals when they are shown these objects. Real objects and models evoke interest in children and simplify the teaching process.

Teaching Science

Arranging nature hikes, microscopes, using hand lens, collecting rocks, soils, labeling specimens, night study of constellation provide great opportunity for concrete learning. Models are substitutes for real things. It may not be possible or even practicable to visit an industrial unit, but models will give the correct perspective. Preparation of models could form a topic for project work. Carrying out experiments and demonstrations result in effective learning. Students should be allowed to handle the instruments and equipments. Models of respiratory system, circulatory system and internal organs are available in the markets. These models when used appropriately will benefit the learners and the teachers.

Teaching Mathematics

Maths is a subject wherein doing is more prominent than reading. That is why a certain amount of teaching aids are required. Moreover it is a fact that Maths is a subject full of abstract things. That is why many students may take lesser interest in this. To create necessary interest is a constant problem for a teacher. That is why this subject demands the use of aids at every step. Some TLM like ball frames, beads, number blocks, number cards for teaching place values, sticks, colored balls of solids, pebbles, seeds, toy money, weights and specially manufactured things like clock faces, cubes, spheres, cylinders, measuring tapes could be kept in the class.

Activity involving measuring the dimension of the room, building or estimating the time of the day and height of a tree ensures effective learning in students. While teaching multiplication tables,

counting of beads and sticks proves to be very useful at the earlier stages. Black board can be divided into three parts. One part could be used for teaching graphs. The same could be used for making tables and statistics. Writing will be neat if written on this board.

In general, usage of appropriate and subject related pictures makes the work of the teachers easier. Pictures need not have unnecessary details. Charts and pictures need to be visible and accessible to all. Neatly written materials with bold letters are easy to understand. Sub headings written differently will enhance understanding. Keep the charts and pictures in a place where sufficient light falls.

OHPs are very effective in the classroom teaching. Teachers can write on it while speaking to the children. Transparencies could be stored and reused whenever needed. Using different colors enhances the presentation. Teachers can point out the specific details and discuss. Teachers can cover the information or details that do not relate the on going discussion. OHPs can be used effectively for learning spellings, poems etc.

In addition to the above, in the era of computer technology internet can be used as a source of information. Students can surf the net and find out information on their own. Each and every bit of information on any topic is available for the teachers and students. Therefore, technology could be used to the maximum possible to deliver correct and apt information.

The role of TLM in education of the SWHI is not very different than that of the students without disabilities. However, language inadequacies of the SWHI have to be kept in mind while preparing and using the TLM. One must **remember following points while preparing the TLM which will be used by a SWHI.**

- No teaching aid should have only visuals or pictures; it has to be along with the written language.

- The language used in teaching aids has to be in complete sentences rather than the isolated words.

- Visual information is more supportive in learning for a SWHI. But this does not mean TLM using auditory information is of no use. SWHI should not be denied opportunity to learn only because the material is auditory oriented.

- Abstract concepts have to be focused upon rather than oversimplified concrete words. For example for the story of the rabbit and the tortoise, just the pictures of the two animals will not help. Concepts like 'running race from this tree till that temple', 'winning', 'happy', 'sad', etc should be made clear.

- Overuse and abuse of TLM should be avoided. For the learnt words and concepts, the TLM should not be used again and again. The objective of using TLM is to give **support** in

learning and not to make students over dependent on TLM. For example, first time when Shivaji's lesson is introduced; it is good to have a few pictures of Shivaji ready. But later when higher concepts like coronation, treaty, war strategies etc are involved TLM should be in the form of graphics rather than just a picture. Many times teaching aids are overused (are used when actually students could have understood without it) and misused (are used for obviously simple concepts). This should be avoided.

■ You have learnt about text book adaptations. Adapted texts too are useful TLM. Once made ready; these can be used every year for another set of students.

TLM is much talked about topic. Yet it is taken less seriously. With SWHI one has to be more creative, systematic and careful about preparing and using TLM since SWHI will more readily process the information fed through visual sense. Such visual information actually may go as permanent imprints in a child's mind since it is given to him / her when the concepts are being formed. A well prepared and clear TLM thus actually goes a long way in strengthening the overall learning process.

PRACTICAL ACTIVITY:

(B32) Observe 2-3 sessions of teaching wherein a teaching aid is used extensively. Prepare a list of Do's and Dont's for preparing and using TLM.

(B33) Prepare a teaching aid for a lesson in science or geography making an abstract idea clear to students of primary class.

Comprehensive and Continuous Evaluation

What is Evaluation?

Evaluation is the most significant step of the circular process of teaching learning. People may confuse among the terms assessment, evaluation and measurement. All the three processes aim at reviewing the current level of functioning of an individual. Measurement is such a review which is quantitative in nature. Assessment refers to one time event of reviewing the status of current functioning level. Evaluation is the process of making a decision or reaching a conclusion about a student's performance based on information obtained from an assessment, testing or measurement procedure. Teachers mostly use students' marks obtained in series of tests/exams. The marks obtained talk about the students' performance. This information is used to evaluate students. But it is not appropriate to use only examination marks to evaluate the child – certainly not for a SWHI. It is a mistake to think that the process of evaluation solely depends on giving tests to students.

Why do we need Evaluation?

There are two decisions that are based on evaluation. They are: what to teach and how to teach. Although effective teachers are good at delivering instruction, they must be good in deciding what to teach and how to teach. Such decisions when based on good evaluation and a good decision making model will increase student progress. Since students progress through curriculum and instruction process, it is essential for the teachers to know about the progress and the ways to facilitate instruction. From this point of view, evaluation links instruction with setting objectives. Did instructions lead to achieving the set objective? Evaluation helps you answer this question.

We need evaluation for taking better decisions about what our students need to learn and how we will go about facilitating the process of learning. If we make efficient decision, we will develop efficient programs that help students learn what we want them to learn. From this point of view we need evaluation to review the success of the teaching learning process.

During the process of educational evaluation, we always make inferences. Drawing inferences here refers to interpret the numbers / grades / scores / percentiles. Raman got B grade, Bina scored 79 out of 100, Shashi's language age is 7.....what do numbers mean in the above statements? How will you decide whether Raman, Bina and Shashi have progressed or not? Earlier evaluations, current targets set and age of the child will help you interpret the numbers. These inferences should have a high likelihood of reflecting the true level of functioning. They should not be underestimation or overestimation of the actual current level of functioning. Therefore, we are concerned with the accuracy of our inferences. It means our evaluation needs to be accurate.

Comprehensive and Continuous Evaluation

The aim of this system is to reduce the workload of students and to improve overall skill and ability by means of evaluation of other activities. **The word comprehensive covers evaluation of both academic and non-academic areas by using multiple techniques. The evaluation is continuous all through the year.** This system ensures the assessment of students in the beginning of instructions as well as assessment during the instructional process. Students could be evaluated continually based on their classroom performance, completion of project work, behaviour, teamwork, innovation, regularity etc. Therefore, proportionate weightage should be allotted for non-academic areas too. Teachers can identify the aptitude and interest of students that help the students in making decisions for their future by choosing subjects, courses and careers.

Types of Evaluation Strategies:

There are two general evaluation strategies to facilitate decision making: summative and formative. For summative evaluation, teachers use classroom tests and exams conducted at definite periods. Summative evaluation can be employed to measure the end result of instruction. Summative

evaluation is useful for deciding what to teach further. Formative evaluation, as the name suggests, is carried out as a baseline assessment before the intervention / instructional program begins. It is critical to evaluate children with special needs since it helps in target setting which is absolutely sensitive process when it comes to SWHI. In general, formative evaluation is important for setting target and summative evaluation is important for reviewing whether the set targets are achieved or not.

The specific techniques used for carrying out both the types of evaluation could be similar:

- Oral question answers:

- Written exercises;

- Project work / assignments;

- Presentations;

- Exercises through visual manual method;

- solving a puzzle;

- Acting out responses / pointing;

- Close set multiple choice exercise;

Combinations are always better than any single type. It is incorrect to arrive at a decision after considering a single test. Decisions about students are based on several performances rather than a performance on a single test. Keeping track of performances by recording information on a monthly or periodical basis and analyzing the information periodically provide important and immediate feedback. This feedback can be used for evaluation. Students' participation in their evaluation makes it most effective and contributive.

Appropriate selection of the task helps the students in taking responsibility and work independently. Explain the procedure of assigning points to students. It is important for students to participate in frequent evaluation activities and receive feedback on their performance. Regular feedback provides students with needed information which helps learning. Feedback needs to be:

- Clear and unambiguous;

- Immediate;

- Objective;

- Specific and measurable;

- Consistent;

- Preferably written;

- Countersigned by the family members.

Such feedback provides an excellent system for frequently monitoring of students' performance. Ideally, classroom teachers must give such feedback to all the students but due to the pragmatic reasons (number of students, deadlines etc) if he /she is unable to do so for all, such a feedback must be given to SWHI since his / her learning greatly depends on the feedback.

Feedback also serves two important functions: (a) it helps students in distinguishing between correct and incorrect responses and (b) it informs about their progress.

Involving students themselves in the process of evaluation is a recent and useful concept. Here the major question arises on how to involve students in evaluation. It will be fun for students to mark their own progress or performance. They can also measure the performances of each others. A participatory evaluation is an opportunity for both teachers and students to stop and reflect on the past in order to make decisions about the future. Students need to be encouraged and supported by the teachers to take responsibility and control of:

- Planning what is to be evaluated

- How the evaluation will be done

- Carrying out the evaluation

- Analyzing information and presenting evaluation results.

A participatory evaluation should not be thought of as a final judgment on whether activities are successful or unsuccessful. The information should encourage changes and adjustments in future.

Keep the following points in mind while carrying out evaluation of a SWHI:

- Teachers have to be realistically tolerant and patient while evaluating a SWHI.

- Try to understand different learning styles and abilities of SWHI.

- Sometimes, evaluation exercises specially designed for the SWHI can be carried out by the teachers. You can help them design and implement such evaluation.

- Over and above the examinations, SWHI need language assessment on regular basis. You should be able to arrange for standard language assessment for the SWHI periodically. Some of the language assessment tools are very simple to deal with. As a resource teacher you could have few of these tools with you.

- Evaluation should never be avoided due to teacher's unawareness about 'how to go about it'.

- SWHI require adaptations in evaluation procedures for example; writing a poem / tables instead of reciting, giving substitute exercises which are less dependent on oral / listening skills. Exercises like dictations are difficult to handle for a SWHI.

- SWHI are entitled for some educational exemptions and concessions. Teachers should be aware of it. Most importantly, not all SWHI need these concessions and exemptions. You should be able to guide teachers in terms of who is eligible as well as suitable for these and who are not.

- Undue sympathy and undue 'pushing' forward the student as a result of guilt feeling must be avoided by the teachers during evaluation. The real help is not 'making' the child pass but empower him / her to pass.

- Share the evaluation criteria with the students.

- The feedback as mentioned above should be given to the SWHI and the family.

PRACTICAL ACTIVITY:

(B34) Make a report on evaluation system of any mainstream school that you visit. The report must address the questions like, frequency of exams, balance of internal assessment and term end examination, subjects of marks / ranks / grades, weightage to project work etc

(B35) Prepare a small manual for the classroom teachers on the adaptations that a SWHI requires for better evaluation.

■■

Support System

Skill Development in Signing and Speech Therapy

With a SWHI, access to communication is the single most important point for any professional to work on. ACE amplification or E3 of visual manual language; each SWHI MUST have either of the two. Once access to natural and complete communication is ensured, language will not be a concern. Once language development is age appropriate; education, literacy, cognitive / social functioning etc are almost taken care of. Since access to communication is so important skill development in required areas is included in this manual. This skill development is of two types: I) Skill development in signing: This includes signs of sign system as well as of sign language. If you know the basic signs it will help you communicate better with some SWHI who need it. Most importantly you should be able to arrange for training on signing for parents, classmates and teachers as and when possible. II) Oral communication and speech therapy: You have learnt about auditory training. Combined knowledge of auditory training and speech development will help you work on oral techniques

Skill Development in Signing

Signing is as natural and as complex as any of the verbal languages. It is not possible to learn or teach it within a period of 3 or 6 months. But if basic skill development is ensured then further learning and enhancement of the skills can continue through practice. At this point one must distinguish between a sign system and a sign language. Let us see it briefly.

What are Sign Languages?

(1)   Sign Languages are independent languages. Indian Sign Language (ISL) is no exception.

(2)   Sign Languages have complex structure like any other verbal language.

(3)   This structure (grammar) of any sign language (ASL, ISL, BSL etc) is not the same as the verbal language of the same country. For example, both ASL and English have grammar (set of rules) but it is not same.

(4)   Sign Languages change country to country and are not universally. There are thousands of verbal languages; similarly there exist a big number of sign languages.

(5)   No one can make a sign language. It has to evolve on its own like any other natural language.

(6)   One does not formally standardize a natural language so there is no question of standardizing sign language.

(7)   Like verbal languages, sign languages too have regional varieties. Hindi of Delhi and Hindi of Mumbai are very different from each other but still a person from Mumbai and a person from Delhi can exchange complex thoughts in Hindi. India too has one sign language which has regional varieties.

(8)   Sign languages can be (and is) used for anything for which verbal language is used-make jokes, discuss science and technology, discuss grammar or use in legal matters, make poems and stories etc.

(9)   Sign languages can and do have dictionaries and grammar books.

(10)   Sign Languages do not involve use of 'only hands'. Hands play very significant role in sign languages; whole body and facial expressions too are a part of sign language.

(11)   One sign language cannot be considered 'better' than the other. (It would be as unscientific as to say Marathi is better than Tamil).

Indian Sign System:

Sign Systems are parallel to verbal languages; they are not independent as sign languages. Sign systems use the grammar of the verbal language of society. In western developed countries one verbal language has several parallel sign systems created by different scholars. For example, English has many parallel sign systems like Seeing Essential English (SEE I), Signing Exact English (SEE II), Signed, English (SE), Sign English (Signlish) etc. Verbal languages in India are not fortunate enough to have as many parallel sign systems made by the professionals as that of English. However due to a UNICEF funded project at AYJNIHH, Indian Sign Systems have been created like any other Sign Systems. These are systems of signs (manual codes) created keeping the vocabulary and grammar of Indian languages in mind. ISS, needless to mention has to be used along with speech. The avenues for training in use of ISS are extremely rare in the country and need to be enhanced. Since India is a multi-lingual country, while the signs for basic vocabulary remain almost the same across the Indian languages, the grammatical markers differ from language to language.

Along with Sign Language and Sign System, one must know about finger spellings. Finger spelling simply means alphabets indicated in the air with palm and fingers. These could be single handed or double handed. It is a visual support system used in both Sign Language and Sign System.

Difference between Sign Language and Sign System:

	Sign Language	Sign System
01	Each **concept**/word has a manual sign	Each **morpheme** has a manual sign
02	Naturally evolved	Artificially made
03	Has independent grammar	Uses grammar of the verbal language
04	Has to be used independently	Has to be used along with speech
05	Expected to replace speech	Expected to supplement speech
06	Used in Bilingualism	Used in TC

The first point needs some explanation here: since sign languages (for example, Indian Sign Language) are languages, there is a manual sign for each word or concept. All independent languages have different ways of word usage. **Each** word in Hindi may not have <u>one</u> equivalent in English or vice versa. What is the equivalent of 'fell' in Hindi? (gir gaya); one word in English and two in Hindi. Sign language being an independent language has one manual sign for either word or concept- it does not and need not have one sign for each English or Marathi word. For example, ('He fell down from a tall tower' are 7 words but in sign language the concept can be expressed in 3/4 signs.)

In sign system on the other hand, each manual sign **represents a morpheme**. How many signs of sign system will it require to express the following sentence?

Girls are running madly.

Yes, 7 signs for seven morphemes. (girl,s, are, run, ing, mad, ly)

This in general is the theoretical base of the issue. In practical area you will learn to use these skills at basic level.

PRACTICAL ACTIVITIES

(C 1) A. Learn at least 250 / 300 basic signs which are common in sign language or sign system. You will be able to do this from a dictionary or by arranging a training program. The list of these frequently used words / word parts is available with SSA. There are some other lists you can refer to are Fry's list of most frequently occurring words or the list developed at Vaani Center for Deaf Children. You can contact sign language departments of organizations like AYJNIHH, Mumbai, Mook Badhir Sangathan, Indore or Ramkrishna Mission Vivekanand University, Coimbtore.

B. Make a list of grammatical markers in your language. Learn signs of around 50 markers and help class teachers use it with the SWHI.

REMEMBER:

i.   While arranging training on signs for yourself or for parents, teachers or classmates please make it a point to **concentrate on sentences rather** than words. Knowledge can be given or taken in sentences and it is not possible when only word lists are used.

ii.   Also concentrate on abstract grammatical markers which are keys for language understanding. A few words are given here so that you do not get stuck with lists of fruits, vegetables, animals and colors.

iii.   The list of signs need to get complex and longer as the students move from one standard to the next standard.

iv.   Training on signs is not a onetime event, it needs to be carried out periodically for updating the skill and also because coping with growing communicative and curricular needs.

v.   Evaluation of signing skills is important and can be taken as part of overall evaluation scheme of the school.

SAMPLE LIST:

■   Take higher level verbs like finish, keep, do, make, understand, explain, dream etc as you take the more common ones like eat, drink, sit and stand.

■   Take higher level adjectives like difficult, few, different, frightening, empty, great, superb, boring etc as you take the more common ones like long, short, big and small

■   Take higher level adverbs like easily, always, suddenly, daily, wonderfully, rarely as you take the more common ones like fast, slow and quickly.

■   Do not miss tense markers like ing, ed, en, will etc (make a list of markers in your language).

■   Do not miss markers for plurality, possessions, pronouns and prepositions.

■   Most importantly emphasize conjunctions like if- then, but, because, so, therefore, hence, however etc.

■   Also emphasize question forms. You can put up a whole list of question forms in your classes so that the abstract ones like why, how often, what for, since when etc rather than getting stuck with the common ones like what, where and how many.

PRACTICAL ACTIVITY

(C 2) Make a list of professionals, oraganizations which can arrange sign system or sign language training for parents, teachers or classmates.

(C 3) Teach finger spelling to the classmates. Classmates are generally very positive about learning finger spelling. Hold a small competition for them on finger spelling.

Oral Communication and Speech Therapy:

We cannot discuss hearing loss without referring to speech. Have you ever wondered what 'speech' is? According to a famous speech scientist, Van Riper, speech is an audible manifestation of language. It is the communication through vocal and oral symbols. This is a very useful description of speech since it not only clarifies what 'speech' is but also makes reference to language and communication without which one cannot define speech. Since speech is used for communication it is very important that it has to be intelligible. Otherwise the receiver will not be able to understand what the speaker intends to say. Speech production involves five processes (1) Respiration (2) Phonation (3) Resonation (4) Articulation (5) Regulation.

Any problem in execution or coordination in any of these processes affects speech production and speech intelligibility. Remember however, that for a SWHI, the major concerns are not these 5 mechanisms but his / her inability to access the auditory exposure in the environment.

Speech consists of three aspects which are called parameters of speech**.** These are:

(1)   Non segmental aspects (Voice):

This means voice of the person. We know voice in terms of male / female voice, nasal voice, good / bad voice, husky voice etc. This voice consists of the base of speech. It is used as a flow during speech and its characteristics affect the speech production.

(2)   Segmental aspects (Articulation):

This means pronunciations or articulations involved in speech. These articulation basically are of two types: vowels (a, e, oo, ee etc.) and consonants (k, k^h, g, g^h etc.) combining which (taking base from voice) speech is produced.

(3)   Supra segmental aspects (Rhythm):

These aspects are overlaid on combination of voice and articulation. These include intonation (rise and fall), pause, tempo (speed), emphasis etc. These add more meaning and emotions to the speech.

Together these three factors give speech its intelligibility. Speech intelligibility is the term used to indicate 'how much / what extent speech of an individual is 'understood' by the others'. Therapists work on segmental, non-segmental and supra segmental aspects with focus on increasing overall intelligibility of the speech.

Parameters of speech can be indicated as follow:

```
                    ┌─────────────────────┐
                    │   Parameters of     │
                    │      Speech         │
                    └─────────────────────┘
          ┌───────────────────┼───────────────────┐
          ▼                   ▼                   ▼
┌──────────────────┐ ┌──────────────────┐ ┌──────────────────┐
│  Non Segmental   │ │    Segmental     │ │  Supra Segmental │
│   Parameters     │ │   Parameters     │ │    Parameters    │
│                  │ │                  │ │                  │
│      Voice       │ │   Articulation   │ │     Rhythm       │
└──────────────────┘ └──────────────────┘ └──────────────────┘
```
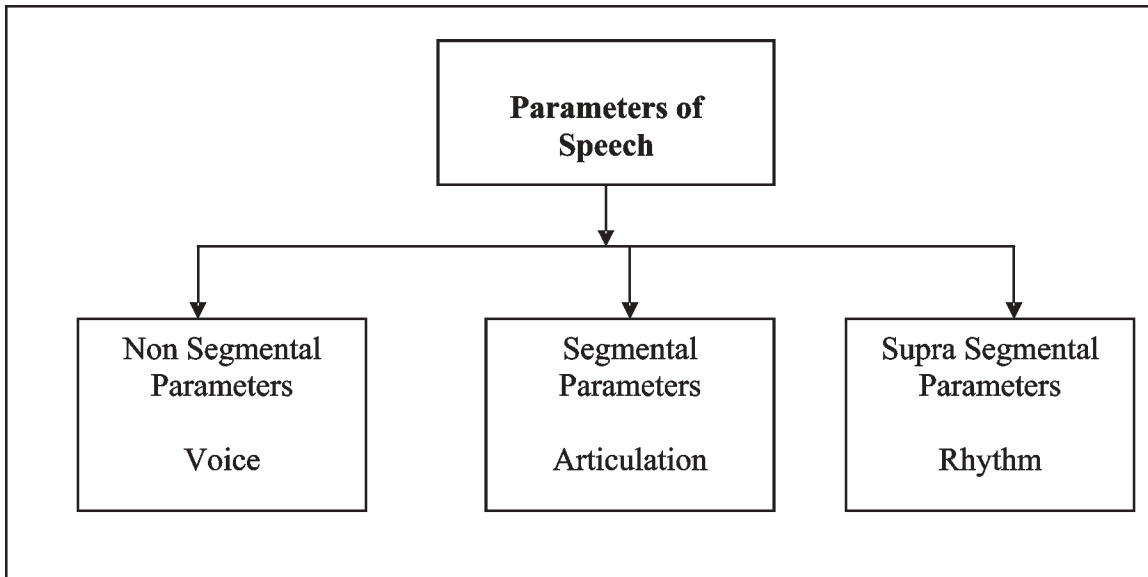
Speech production and intelligibility of a person with SWHI may depend on factors like:

■ Degree of Hearing Loss: Lesser the degree of hearing loss better will be the speech intelligibility.

■ Onset of Hearing loss: Onset means – when did hearing loss occur. If the hearing loss occurs after that child has developed speech and language then its negative impact on speech would be lesser than a child who has pre-lingual (before the age of 3 years) or congenital (by birth) hearing loss.

■ Onset of intervention: Even if the child has pre-lingual or congenital loss if the intervention starts early in life (before the first or second birthday of the child) speech production or intelligibility can be expected to be near normal.

■ Auditory training: Most importantly, the speech of the child depends on how much child has been auditory trained to use his residual hearing

■ Use of hearing aids: Whether hearing aids are suitable and worn consistently also matters a great amount.

■ Speech and language stimulation by parents at home: One of the most significant determiners of speech achievements of a child.

SWHI do not get complete, adequate and clear auditory input. Hence, it is very common to meet a SWHI who is unable to use speech as intelligibly and effectively as the non-impaired children. However, as we all know, there is nothing wrong in the speech producing organs of the children

with hearing losses. The most effective way to develop speech in these students is ensuring appropriate and early hearing aids which are fitted in both the ears early in life. If a student is getting regular and systematic auditory training, then half the battle is won. However, over and above this, children do need support in terms of speech therapy.

During speech therapy the therapist generally:

- Rules out the other associated disorders / abnormalities;

- finds out current level of speech through informal and formal techniques and tools;

- identifies the area of improvement;

- sets long-term and short-term goals for each child;

- plans activities to achieve goals;

- holds therapy sessions (mostly on individual basis but sometimes in small groups);

- reviews the development of the child and progress due to therapy;

- collaborates with parents, classroom teachers, resource teachers and special teachers;

- Helps families tune home environment to suit speech and language development.

Area of work for speech therapist:

- Overall communication;

- Language development;

- Speech development;

- Interactive areas among communication language, speech and cognitive.

Some of the commonly seen problems in speech of CWHI are:

PROBLEMS IN BREATHING

- Feeble voice quality could be due to tendency to speak on inhalation

- Insufficient air tends to produce speech in short burst

- Poor coordination in breathing and phonation results in articulation and supra segmental errors.

PROBLEMS IN VOICE

- Pitch breaks

- Pitch range not normal-androphonia, puberphonia

- Hoarse voice

- Breathy voice

- Poor pitch control

- Poor intensity control

PROBLEMS IN RESONATION

- Hyper nasal voice

- Denasal voice.

PROBLEMS IN ARTICULATION

- Errors like substitution- for 'rain' child says 'Lain'

- Errors of omission-'milk' is pronounced as 'mik'

- Errors of distortion- The sound articulated has a feature which does not resemble to any vowel or consonant

- Errors of addition-'stree' (in Hindi) pronounced as 'istree'.

The main objective of speech therapy is to make the speech of the CWHI intelligible. This can be done only by identifying the errors in speech with the help of speech assessment then making a therapy plan for speech correction.

Special educators should always remember that "Speech should never be separated from language, so **before you begin speech correction you should work hard on developing COMMUNICATIVE LANGUAGE".**

What should you know before speech teaching?

- Residual hearing of the child

- His / her aided audiogram

- Child's response to Lings 6 sound test

- Skills child has already achieved (It is possible only through Speech Evaluation).

Speech teaching approach varies as per the age, level of functioning and benefits from amplification.

REMEMBER

- Child produces what he / she hears so, if he is misarticulating some sound, then it could be because he hears it like that.

- Exploit residual hearing; train the child to use more of auditory cues than depending on visual or tactile clue.(Not applicable for the children for whom sign language / sign system/ speech reading has been found to be necessary).

- Auditory training is a must if you desire to have good speech production.

Principles of speech teaching (given by Ling)

- Speech teaching is an orderly and sequential process. These must be followed consistently to get desired results.

- Hearing is the most effective sensory channel for development of spoken language skills but vision and touch may be required as supplementary channels.

- Development of listening skills enhances the use of the residual hearing.

- Evaluation and feedback are essential components of speech development.

- The child should have adequate FUNCTIONAL LANGUAGE before the structured speech teaching programme is started.

Skills to be developed for preprimary level

At this level speech readiness activities are carried out in which skills are developed mainly at non-segmental level.

- Imitation of speech act – Child is asked to imitate different movements required for consonant or vowel production. For example, curling the tongue and touching it to hard palate (as in/ t/) approximating upper and lower lips as in /p/

- Encouraging vocalization through free play- Sing poems ,action songs , games which will make him vocalize

- Breath control- Blowing and sucking activities

- Intensity control- Vary the distance between you and the child, stand far off, ask the child to say your name loudly if it is loud enough then only you should respond .Now come very close ask the child to call out softly.

- Pitch control- Take an aero plane raise it up and say /a/ with high pitch and bring it down and say /a/ with low pitch, let the child imitate

- Syllable repetition- ask the child to repeat the words with one syllable(ball),two syllables (baby), three syllables (umbrella)

Those SWHI, who have acquired language but have not developed adequate speech skills require a systematic speech teaching program. This is also called as correction model and applicable to older children.

Skills to be developed at primary level

■ Speech sound correction- Correcting misarticulations is done at mainly two levels. At level one sounds are elicited by using techniques like phonetic placement method, Ear training, progressive approximation. For stabilization of the sound the newly learnt sound is practiced at syllable, word, sentence level and conversation level.

■ Incorporating non-segmental aspects to develop suprasegmental aspects like intonation, stress and phrasing. This can be done in activities like story telling, passage reading, and dramatization or in role play activities.

■ Drill work of skills already acquired.

■ Carry over of learnt skills in meaningful situation.

Speech concerns of children / individuals with normal hearing:

Hearing loss is one of the many conditions which negatively impacts speech and language development and functioning. The speech therapists work with these other cases having speech and language concerns for example, mental retardation, voice disorders, aphasia etc.

PRACTICAL ACTIVITIES

In this area of practical work you are requested to:

(C 4) Observe speech therapy for SWHI - Minimum - 2 sessions. 1 session for a preschool level student and one with primary level student.

(C 5) Observe speech therapy for non-hearing loss cases. Any two speech concerns minimum 2 sessions. (school going students of any age / standard).

(C 6) Submit a report in prescribed format whereby you are giving details on following areas:

(a) techniques used

(b) TLM used

(c) technology used

(d) parental involvement

(e) student progress

(f) record keeping by the therapist

(C 7) Read and study 08 speech therapy plans including the 4 sessions mentioned above.

(C 8) Observe one session of guidelines being given to parents / teachers on developing speech.

(C 9) Observe 2 sessions of speech assessment with particular focus on error analysis involving errors of

(a)   Substitution

(b)   Omission

(c)   Distortion

(d)   Addition

If you follow the basic theory, learn a few practical skills and link speech development with the life and experiences of the child, you will be able to help the SWHI use speech for communication. If you can involve classroom teachers and the family members in the mission, the task will be faster and simpler. The speech therapists of the concerned SWHI will guide you about how to go about involving them in the process of developing and correcting speech as an effective mode of communication. Speech therapist is the one who would help you predict the potential success of speech teaching. If due to several reasons (age, benefits of amplification, home environment etc) the efforts of the teacher / family / therapist are not as per the expectations, then Speech therapist would also guide you on exploring other manual options. Also remember, that SWHI using other communicative options too need speech therapists.

In short, if you can initiate and coordinate among all the concerned for the cause of speech development in your SWHI, your efforts will lead to positive results.

Language Development of the SWHI

Non-impaired individuals take language for granted. First language for non impaired children comes so naturally, rapidly, effortlessly and so early in life that they simply fail to understand how complex this mental process actually is. When we need to develop the same mental process in a SWHI, we come face to face with its intricacies, richness and complexities. Very often teachers, parents feel tired and helpless carrying out this task of developing language in CWHI. However one must be positive about language teaching because language teaching may appear difficult but it is not impossible. With few skills at hand, positive attitude and urge to take the child further from where he / she stands today are more than adequate ingredients for the good results.

This practical work will gear you to understand how to plan, implement and review language development in SWHI. Please understand a few principles of teaching language to SWHI.

(1)   Language develops within the framework of context and experience. Teaching language

without context or experience is almost waste of time. Special teachers in special schools for the SWHI create experiences / context so that language can be built around it. In mainstream schools resource teachers like you can do a few things to link language teaching with experiences.

(a)   Review the language of the textbooks (of all the subjects) and prepare the child to understand that language in advance. This means teach him / her the vocabulary / sentence types to him / her before he / she comes across it in the text book.

(b)   Use daily life routine experiences to provide language to the SWHI.

(c)   Help parents develop personalize language / literacy material. This material includes personalized albums, activity books, diaries, experience books, feeling books etc. This helps in three ways. Firstly it helps abstract conversations / thoughts / experiences/ relationships convert into concrete written material. The child gets experience but often has inadequate language related to it. Personalized material prepared as per the needs of the child helps the process of linking experience with language.

Secondly, this personalized material is a good record of how the child has progressed from simple to complex.

Thirdly, the child himself / herself can use that material for reference. He / she can simply scan the earlier pages to do recap and also to add on more details.

(2)   Language helps process ideas without context and experiences. Understand the meaning of this principle in the light of the earlier principle. At early developmental stage language needs experience and context to develop but after a certain point language becomes adequate to process realities which are beyond firsthand experience or context. While teaching SWHI this fact has to be kept in mind that context and experiences are tools to develop language but language should not be completely context-dependent. For example, students have to understand many things without experiencing it himself / herself. For example, the climatic conditions and crops of South Africa (Geography), who won which war followed by what treaty (History) or what chemical has what impact on which metal (Science). To understand these ideas it is not necessary to have firsthand experience. Adequate command over language helps SWHI process the information beyond their experiences.

Hence the objective of the language development should be to develop language to that extent where it can function without the support from experience.

(3)   Sentence as a central unit of teaching and exposure. From very beginning the SWHI should be exposed to whole language. Alphabet to words, words to phrases, phrases to sentences and sentences to paragraphs was the process of teaching language in earlier decades

where structural approach to teaching language was in use. Today we have communicative approach in use and hence language is not taught in bits and pieces, or through long lists of nouns (like vegetables, colours, vehicles etc.) Use and exposure to whole language means using sentences from very beginning whether it is writing, speaking or signing a thought.

(4)   Language teaching cannot be complete without language assessment. Assessment and teaching are equally essential. Only assessment can decide whether language teaching and language learning were taught carefully or not. Only assessment will help teachers raise the targets without either underestimating or overestimating the potentials of the child. Therefore, language assessment must be carried out systematically, periodically and separately as assessment of language textbook (examination) and assessment of developing language of the SWHI are two different things. In general teaching consists of three steps which occur one after the other in a circular way.

Figure # 5: Teaching Learning Process
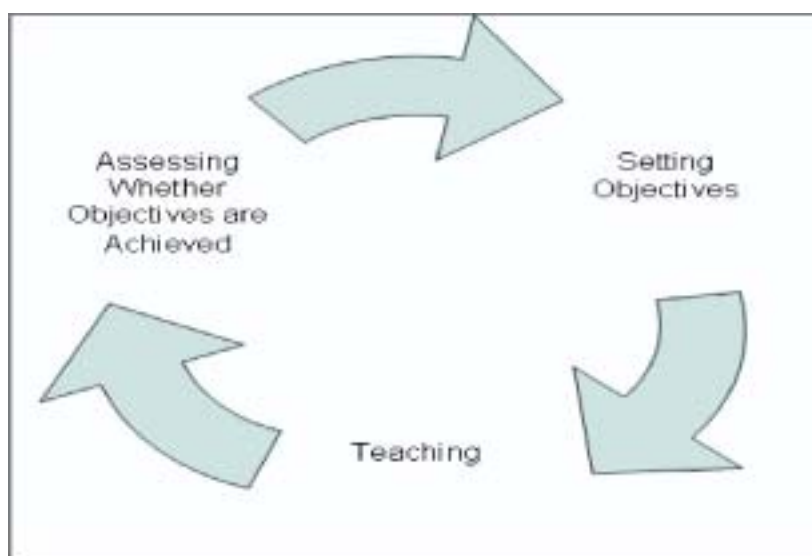
PRACTICAL ACTIVITIES

Following hands-on activities will help you understand how language can be developed in a SWHI.

(C 10) Observe and report minimum 2 language lessons given by the special teacher of a special school for SWHI.

(C 11) Observe and report language assessment carried out on minimum 2 SWHI - one with standardized tool and one with informal assessment.

(C 12) Ask 2 SWHI and 2 non-impaired students to write a picture description and analyze their language. Make a report on your analysis compare the language of two groups.

(C 13) Prepare a list of household activities which the parents can use to develop language.

Development of language for a SWHI is a long-term and quite a slow process. It completely depends on the teachers and family members to make it happy and fruitful process. All the concerned have to be patient and positive about the outcome. Language is an abstract system but it can take three concrete shapes: listening/speaking, reading/ writing and use of signs for reception and expression. You can focus on any of these as per the needs of the child but from academic point of view, you will have to pay special attention to reading and writing. Good literacy and age-appropriate language are the keys to success. As a resource teacher it will be a very fulfilling experience for you to empower the SWHI to get command over language and literacy.

Development of Social Skills

Social skills are absolutely essential for any human being since nobody can live in vacuum; we need a society to live in. Have you ever given a serious thought to the concept of society and what it really means to us? What it means to the children in general? Society is not just a mere group of people surviving together. They have shared factors like:

- Norms related to talking, dressing, eating, behaving etc;

- Ideas of right and wrong;

- Standards of acceptable and unacceptable behavior;

- Code of conduct

- Aspirations / objectives

- Identities.

Because of shared ideas on all these, an individual is well linked with the society in which he / she is living. But who teaches an individual these rules of the society? Is there any coaching class or manual available for it? Obviously not! Then how do the individuals learn them? They learn social skills since birth through various agencies. From family to school and from media to peer group; there are many agencies that influence and shape the social skills of children. Children with hearing impairment are no exception! They too go through the similar process mediated by family, environment, school, peer group, media, social role models etc. Hence, ideally there should not be any need of a separate discussion or efforts put in for the socialization of the SWHI. But we need to monitor the process of socialization at least for two reasons. Firstly, because the SWHI cannot hear adequately, they miss the natural exposure to conversations taking place around them which indirectly shape the behavior and thinking of the children. Secondly, as seen in chapter A 7, hearing loss mostly impacts language functioning and inadequate language functioning itself in turn can negatively impact the process of socialization. SWHI generally have concerns

related to language and communication, it is better if we pay special attention to the child's socialization.

What does socialization or having social skills mean? Can we make a list of specific activities which we can try facilitating in the SWHI?

(1) Peer and classmates accepting the SWHI as a part of all the classroom activities;

(2) SWHI taking part in the classroom activities beyond the actual learning like:

- Sharing tiffin,

- Joking / teasing / discussing / arguing,

- Helping each other with home work, sharing updates like who is not well or when is school picnic, participating in various competitions etc.

(3) SWHI having a close friend or belonging to a group;

(4) SWHI having class responsibility like monitoring the class, collecting note books, getting chalks from office, collecting workbook money etc;

(5) Involvement of the SWHI in group activities of the class like preparing class magazine, decorating the class for teachers day etc;

(6) SWHI being part of out of school activities of the classmates like going to each others places for festivals / birthdays or for exchange of notes or going together to gardens / movies/ sports etc.

Always remember, socialization is a two way process. You will need a good amount of cooperation and understanding from the classmates and classroom teachers of the concerned SWHI. The only way to ensure that, is giving them ample support and orientation on understanding the strengths and weaknesses of the SWHI. Towards this purpose you will have to arrange a series of activity sessions and discussion sessions with them so that their hesitation while dealing with the SWHI is decreased gradually. The teachers and classmates need to become very comfortable involving the SWHI in all the activities (games, assignments, group tasks, elections for selecting class representative, competitions, school magazine etc) even though they may not be able to clearly understand what the SWHI is saying. There will be times of misunderstanding, communication failure or incidences of teasing or ragging. But you need to guide the classroom teachers appropriately to deal with such situations. Much depends on tuning the understanding of the classmates, if they respond to disability with positive and friendly attitude, your efforts will be simpler but even otherwise periodical interaction with the class fellows is required. Family

too needs support in terms of guidance so that socialization in residential area is well taken care of.

PRACTICAL ACTIVITY

(C 14) Hold a group discussion of the classmates of a SWHI on their difficulties dealing with the SWHI and the probable solutions.

(C 15) Identify 2- 3 outgoing, positive and mature classmates who will ensure participation of the SWHI in all the academic and non-academic activities. This may not be the clever students of the class.

(C 16) Conduct a small survey of the SWHI in your schools in terms of their comfort levels with classmates.

(C 17) Prepare a pamphlet for the classmates introducing a SWHI asking them to become his / her friend.

Socialization is a multi-faceted and a long-term process. It cannot be actually planned and structurally implemented. However, it can certainly be facilitated and shaped through certain activities in the classroom. Positive attitude and maturity are necessary for accepting a SWHI wholeheartedly without showing undue sympathy. Not all classmates and teachers will have these. But interacting with them on these issues will certainly lead to better results. Remember, school is much more than a learning place. It is a mini society which lays foundation for citizenship and community living. We have to pay attention to the SWHI so that he can mould himself / herself well within the given social framework. More importantly, the society has to mould itself to suit the special needs of the diverse population. The work you put in to mould the teachers, non-impaired students, school system for making them more disability friendly will go a long way in creating a barrier-free and inclusive society.

■■

Check Your Progress

(1) How does hearing loss vary individual to individual?

(2) Describe the difference between impairment, disability and handicap with special reference to a child with hearing impairment.

(3) Describe the basic types of hearing loss.

(4) How can hearing loss be prevented?

(5) How does knowing developmental milestones help resource teachers?

(6) What should be done if a hearing loss is suspected?

(7) How does one suspect hearing loss in a young child of two years?

(8) Describe the role of the most significant 3 factors (trio) which prevent hearing loss turn into hearing handicap.

(9) Differentiate among communication, language and speech. What exactly is affected due to hearing loss?

(10) Explain the concept of access to complete and adequate communication.

■■

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■■

GENERAL WORD LIST

SL NO	VERBS	SL NO	VERBS
	EAT		CUT
	READ		WASH
	SIT		KEEP
	PLAY		SMELL
	WRITE		TASTE
	STAND		THROW
	WALK		MAKE
	SLEEP		PUSH
	GIVE		PULL
	TAKE		OPEN
	RUN		SHUT
	SEE		JUMP
	LISTEN/HEAR		CATCH
	SPEAK		PICK UP
	LAUGH		WAKE UP
	CRY		SWIM
	WEAR		CLIMB UP
	DRAW		CLIMB DOWN
	BATH		DANCE
	SELL		THINK
	FINISH		BRUSH
	MAKE	PREPARE	DRESS UP
	LEARN	TO BE (Hindi – Hona)	POINT
	FEEL	KEEP	BEAT/ HIT
	LEARN	PUNISH	BLOW **
	COOK	TRY	BREAK
	(To) REMEMBER		CLAP
	COMB		DIG

RIDE	DRIVE
SEW	DRINK
SING	FALL
POINT OUT**SHOW	FIGHT
POUR	FLOAT
HIDE	FEED*
KICK	BUY
DO	WORK
WALK	REMIND
REMEMBER	LOVE
TEACH	UNDERSTAND
EXPLAIN	DO

ADJECTIVES

BIG		SWEET
SMALL		SOUR
LONG	WRONG	SALTY
SHORT	COMPLETE	PUNGENT
TALL		BITTER
FAT	NEW	SOFT
THIN	OLD	HARD
THICK	BEAUTIFUL/ PRETTY	ROUGH
DIRTY	WIDE	SMOOTH
CLEAN	NARROW	WET
FULL	CORRECT (RIGHT)	DRY
EMPTY	WRONG	HOT
NEW	KIND	COLD
OLD	RUDE	FAST
YOUNG	STRICT	SLOW
HAPPY	EASY	HUNGRY
ANGRY	DIFFICULT	THIRSTY

FRIGHTENING	LOUD	HEAVY
SAD	QUIET	LIGHT
SHUT	NOISY	BEAUTIFUL
OPEN	SILENT	CLEVER
EARLY	MORE	BRAVE
LATE	LESS	SAME
FEW		DIFFERENT
MANY		RIGHT
GOOD		WRONG
BAD		EASY
SOME		DIFFICULT
NEAT		UNTIDY
CLEAN		DIRTY

IN	BEHIND
OUT	IN FRONT OF
ON	FAR
UP	NEAR
DOWN	BESIDE
UNDER	BETWEEN
OVER	TO
I	HIS
YOU	HER
HE	ITS
SHE	OUR
IT	THEIR
WE	ME
THEY	HIM
MY	US
YOUR	THEM

QUICKLY	EASILY	ALWAYS
SLOWLY	NEARLY	AGAIN
NOW	LOUDLY	KINDLY
THEN	WELL	SUDDENLY
HERE	GLADLY	QUIETLY
THERE	DAILY	YES, NO

AND	OR	ALSO	STILL
BUT	SO	THEN	ABOUT
BECAUSE	IF	FOR	INSTEAD OF

WHO?	RELATES TO PEOPLE
WHOSE?	RELATES TO POSSESSIONS
WHERE?	RELATES TO POSITIONS ACTIVITY MOVEMENT
WHAT?	
WHICH?	
WHEN?	
HOW?	
HOW MANY?	
HOW MUCH?	

NOUNS

HANDS	HAIR	HOOF
LEGS	FINGERS	BILL , BEAK
EYES	NAILS	WING
NOSE	CHEST	FEATHER
EARS	BELLY	TRUNK
HEAD	BACK	SCALE
MOUTH	HEART	FINS
LIPS	TAIL	
TONGUE	HORN	
TEETH	PAW	

FRUITS: (Relevant to the Child)

FRUIT	APPLE	COCONUT
	BANANA	GRAPES
	MANGO	
	ORANGE	
	PAPAYA	

VEGETABLES: (Relevant to the Child)

VEGETABLE	POTATO	CABBAGE
	ONION	CAULIFLOWER
	TOMATO	LADY'S FINGER
	BRINGAL	KARELLA
	CARROT	GREEN – PEA

FLOWERS: (relevant to the child)

NUMBERS: 1 TO 10 (Minimum)

METAL: IRON, GOLD, TIN, SILVER, ALUMINIUM

MONET: RUPEE, PAISA

FOOD AND DRINK

RICE	MEAT	WATER	SWEET
DAL	FISH	MILK	BREAKFAST
CHAPATTI	EGG	TEA	LUNCH
BREAD	CAKE	COFFEE	DINNER
CURRY	BISCUIT	COLD DRINK	

ANIMALS

DOMESTIC	WILD	LIVE IN WATER
DOG	TIGER	FISH
COW	LION	FROG
CAT	BEAR	CRAB
GOAT	ELEPHANT	TURTLE
SHEEP	DEER	CROCODILE
BUFFALO	MONKEY	
PIG		

CLOTHES: (Relevant to the child)

SHIRT	SHORTS	FROCK	HANDKERCHIEF
TROUSERS	T SHIRT	CHURIDER	WATER PROOF
SHOE	SAREE	MEKHELA	JACKET
SLIPPER		SWEATER	DHOTI
SANDAL		SHAWL	LUNGI

BIRDS (Relevant to the child)

CROW	CUCKOO
	PEACOCK
HEN	PIGEON
DUCK	
PARROT	

TRANSPORT

BUS	BICYCLE	CART
TRAIN	MOTOR CAR	AEROPLANE
TAXI	AMBULANCE	BOAT
AUTO	FIRE BRIGADE	SHIP
RICKSHAW	LORRY	

EDUCATION RELATED

CLASSROOM	PEN	SCHOOL BAG
BOARD	ERASER	SLATE
CHAIR	CHALK	SCHOOL
TABLE	PAPER, PAGE	COLLEGE
BENCH	RULER	HOSTEL
DESK	CHART	ROLL CALL
DUSTER	PICTURE	PRESENT
BOOK	TOY	ABSENT
COPY/EXERCISE BOOK	GLOBE	EXAMINATION
PENCIL	MAP	VACATION

RELATIVES

FATHER	HUSBAND
MOTHER	WIFE
ELDER – BROTHER /SISTER	
YOUNGERBROTHER/SISTER	
SON	
DAUGHTER	
GRAND MOTHER	
GRAND FATHER	
UNCLE	
AUNT	

PEOPLE WORDS:

BOY	CHILDREN
GIRL	TEACHER
MAN	HEAD MASTER
WOMEN	DOCTOR
STUDENT	FARMER

NATURE

SKY	MOON	ROAD
MUD	STAR	POND
WATER	CLOUD	RIVER
AIR	STORM	SEA
SUN	RAIN	TREE

SEASONS

SUMMER	AUTUMN	WINTER
RAINYSEASON/ MONSOON		SPRING

TIME

MORNING	DAY	DAILY	MINUTE
NOON	WEEK	TODAY	SECOND
AFTERNOON	MONTH	TOMORROW	
EVENING	YEAR	YESTERDAY	
NIGHT	AGE	HOUR	

DIRECTION

RIGHT SIDE	EAST	SOUTH
LEFT SIDE	WEST	NORTH

HOUSE HOLD ARTICLES

FAN	CURTAIN	CHAIR	SPOON		
LIGHT	WINDOW	DOOR-	TABLE	GLASS	KNIFE
BED	CUPBOARD		BALL	BRUSH	COMB,
QUILT	LOCK	BLANKET		PLATE	SOAP
MATTRESS, UMBRELLA	PILLOW	KEY		CUP	PLATE

NAME OF COUNTRY, STATES, IMPORTANT CITY & PLACES

SOME CONCEPTS

DREAM	FEELING	IMAGINATION	THOUGHT	AGAIN
NEVER	EXPERIENCE	CONFIDENCE	EVER	FOREVER

TENSE MARKERS

- ing	- ed	Will	is	was	Will be

POSSESSION MARKERS

's

GENDER MARKERS

Masculine   Feminine

SINGULAR AND PLURAL

- s   - es   Others