

Introduction :-

In India, resources and training materials about deafblind children are too scarce. Communicating with deafblind children is necessary to prevent them from a neglected and isolated life. This booklet covers basic information on teaching, reading and writing skills for deafblind children which can lead them to express their needs. This booklet is a compilation of already available materials / literature. This booklet is especially useful for educators, teachers and parents who are involved in the day to day activities of deafblind children.

This booklet is a small contribution from Sense International (India) to deafblind field.

For easy accessibility of information for people with sensory impairments this booklet is also available in Braille and Tape on request.

Teaching, Reading and Writing skills for Deafblind

The greatest gift we can give a child is help in learning to communicate and connect with his/her world. The primary goal in educating any child is to help him to function as independently as possible in the world. For students with deafblindness and multiple disabilities however, gaining independence requires enormous energy, creativity and patience on the part of all those who work with them. Not only does it take a long time for many students with visual and hearing impairment to develop new skills, but it is often difficult for them to generalize known skills to other settings. It is therefore, essential to teach functional skills in natural settings. No rigid formula is appropriate for all students, and each student's individual needs must be the focus of any educational program. Although, specific methods and materials may vary, the ultimate goal is to teach students functional skills that will enable them to be as independent as possible in the world.

What is Literacy?

Literacy in the broadest sense is listening, speaking, reading and writing. It involves the use of languages. Reading and writing allows information sharing and increases knowledge of the world around us. It allows us to acquire and share information, ideas and knowledge, stimulates mental activity and keeps us in touch with our environment.

Literacy develops abstract concepts, improves communication, independence, and social interaction, access to information in the environment and improves the quality of life.

Early Literacy Experiences :-

Early literacy experiences build a foundation for later literacy skills. Literacy comes from learned experiences beginning from birth and continuing throughout a person's lifetime. For the pre-school child, literacy begins with doing what other family member do already; by responding to signs, logos and labels; by sharing books, scribing notes. As an observer and imitator, the young child tries out and practices reading and writing in functional and meaningful play situations. When young children understand why people read and write, literacy begins to take on meaning for them.

What are the components of early literacy experiences?

Early literacy experiences have the following elements :

1. Oral language development (listening to words, sentences, language at a slightly higher level for e.g. although a child maybe at a one or two word level, his parents talk to him in full sentences which may have words that he is not familiar with. This helps to build his language level and takes him to the next stage of language development).
2. Read aloud experience – listening to rhythm, intonation of voice, print/Braille to convey a message). This is a very important factor in the reading success of children.
3. Interactions with books – enjoying books, understand that symbols have meaning, story comes from print/ Braille, awareness of the structure of stories, hearing “book language” as different from conversation, encouraging a desire to read a book, book handling, understanding routines with books.
4. Exposure to environmental print / Braille (labels, signs, directions).
5. Observing reading and writing routines – especially family members
6. General experience with literacy

Thus, for children to develop early literacy, the following conditions are necessary;

1. The child must observe family members and others reading and writing for a variety of purposes
2. There must be meaningful conversations during the literacy experience
3. The child must have easy access to reading / writing materials
4. The child must be motivated and interested in the literacy experience
5. There must be regular opportunities for the child to use reading & writing materials independently

Deafblind children face the following challenges :-

1. Reduced incidental opportunities for language development through observation and listening to people around them
2. Reduced materials in appropriate literacy mode-reading and writing materials may not be accessible
3. Challenges of picture related learning – visually impaired children may have problems in learning through pictures.
4. Difficulty obtaining appropriate literacy related equipment. For e.g. visually impaired children may not have easy access to Braille, large print materials etc.
5. Reduced experiences due to added disabilities. The presence of additional disabilities like hearing / vision impairments with cognitive delays, cerebral palsy etc. creates further challenges in reading and writing.
6. Lack of appropriate educational intervention. Children with deafblindness / multiple disabilities often do not receive early and appropriate interventional that leads to delays in the acquisition of literacy skills.

Deafblind children may not be able to read and write like “normal children”. Literacy for them may be in different forms and modes. Depending on the child’s sensory, mental and cognitive abilities, literacy may mean that he can learn;

- More formal and structured language which may be in print or Braille
- He may be able to work on a Braille computer or access Internet
- Or he may be able to “read” a schedule that consists of objects arranged in the order of events they represent or to point to a picture to express his need, which is a more functional form of literacy.

Literacy :-

Literacy expands understanding of the world of a deafblind child. Literacy is as important for a young deafblind child as it is for a child without disabilities. Literacy will provide opportunities for independent decision – making as well as provide choices. The use of picture, print, object or Braille allows a child to cook independently and be able to read food labels on food items, which gives him many choices at the store. Some children may learn to recognize road safety signs and read in limited ways. Learning to write or draw in a daily diary will enable the child to express himself and his feelings, communicate about the past, anticipate future events, and expand his understanding of the world.

Things to remember :-

1. Literacy is the ability to listen, speak, read and write.
2. Literacy begins early in life right from birth and continues throughout life. It begins with the baby observing family members using literacy skills in day-to-day life. Hence early experiences with literacy through meaningful situations are important for children to develop literacy.
3. Deafblind children face many challenges in acquiring literacy.
4. Depending on the severity of impairments, literacy for these children may be in different forms and ways.
5. Literacy is necessary for every child and to be encouraged no matter how severe the disability.

How do we create a rich literacy environment for deafblind children?

Deafblind children need to be provided with a variety of early literacy experiences just like their sighted and hearing peers do to later prepare them for the world of books.

A deafblind child must be given opportunities for meaningful interactions with different people in his environment. He must have meaningful experiences that involve places, relationships, feelings, actions and imagination. They must have continues exposure to languages and to the conversation of others. As educators of children with severe disabilities, we must create literacy rich environment – a place where children are constantly exposed to print, made aware of its functions and usefulness.

Early Exposure to Reading and Writing :-

Deafblind child need constant exposure and access to concept development and language learning. Since these children receive limited and incomplete information about their environment, we need to ensure that we provide as much exposure to languages learning as possible. Concrete hands-on experiences with things from a foundation of learning for them. Concepts will only develop through exposure to languages provided through natural, meaningful experiences like playing, cooking, shopping and traveling. The child needs to explore things that motivate him. We need to help the child understand his experiences, and with time help him develop abstract concepts for e.g. point out familiar / unfamiliar features, relate new experiences to familiar ones, and help the child anticipate what may be expected in various surroundings.

We can expose children to language, reading and writing in the following ways :-

- A. Read aloud and provide early experiences with books :-

1. Provide language – rich activities, materials, and environments to support a child’s experience with literacy. These include playing together, describing objects, discussing events, supporting the child’s access to language conversations, stories and books.
2. As appropriate, use varied intonation, gestures, signs, objects and tactile items to engage the child in a conversation or story. Since one cannot be sure whether a particular child will be a reader of print or Braille or a listener of stories on tape or in voice, they need early exposure to all three mediums.
3. Young children with useful vision need books with simple, bold pictures, few words, and larger print.
4. Young children with little or no vision need to be exposed to books with tactual features and Braille as well as the large print and pictures. The Braille words are directly under the printed words and usually double-spaced.
5. Build on real experiences that children enjoy as a beginning point for literacy experiences by referring to tactile items associated with these experiences. These tactile items should be organized in a “story or memory” box or book so that the child can refer to events and “reread” these stories.
6. Expose the child to Braille in a similar manner that young children are exposed to print e.g. on labels. The child should feel the Braille even though the child may not be able to read this abstract symbol system. Through repeated and consistent exposure, the child will give meaning to these dots.
7. Read familiar, interesting, and relevant books repeatedly with the child. Bring in pictures, newspapers and magazines to share and read with the child.
8. Ask the child to “read” a book to you by touching tactile items in sequence and using gestures or other means of communication.
9. Provide opportunities for interaction. Pause during the story and wait for the child to feel tactile items and the Braille, and to comment or anticipate what happens next. Allow the child to hold the book, turn the pages, and feel tactile features. If needed, add tabs to pages to make them easier to turn. Help the child understand which is the front / back of the book, and look for words / a picture / texture on top, bottom, middle of page and later on left and right of the book in fun ways.
10. Have the child participate in the development of tactile books and displays using items that represent favourite activities or experiences.
11. Whenever possible, help the child make connections between these experiences stories and current or upcoming events.
12. As the child gains greater understanding of different literacy experiences, more abstract methods of representation can be used.
13. Let children experiment and play with Braille as a form of self-expression.

B. Early Exposure to Writing :-

1. Let young children become aware of how you use writing – e.g. when you make a list of things to do. Let the child observe you or put his hand on your pen as you write. Say aloud what you are writing.
2. Sometimes, use the pen to poke holes in a piece of paper placed on a small piece of carpet material. Turn it over and let the young child feel the bumps made as you say what you pretended to write.
3. Give the child a pencil, crayon and paper and let him scribble his own list of things he wants from the shop. If the child has vision, let him scribble with crayon, marker, pen or pencil. If the child has little or no vision, encourage him to “write” with a stylus, or pen to make dots. The child can also use perfumed

crayons or markers, and you can place a textured material under the paper so he can feel the texture of the crayons.

4. Draw pictures of things in the child's experience.
5. When cooking point out the recipe book you are reading from. Read the recipe book out loud.
6. When you are writing,, encouraged the child to share the experience, when working on the computer, let the child feel the keys and watch the screen.
7. Use a Braille to write things. Let the child feel as you use it, explore it, push on the keys.

C. Marking things in the environment :-

1. Provide hands-on, concrete experiences with objects that he uses, e.g. milk bottle, biscuits.
2. Encourage the child to find the biscuit packet, etc. by putting a texture cue on the outside of the box. Help him feel the texture cue on the box to before opening it to take out a biscuit.
3. Use objects / sound / texture / smell cues to prepare the child for symbol representation. Show the child how to feel / look at / listen to familiar toys, books and objects.
4. If the child is blind, put a texture cue on the cover of his favourite book to help him identify it.
5. Mark the child's belongings with print and Braille.
6. Mark the child's toothbrush, towel with some textured materials.
7. Mark furniture and mobility routes in the child's environment with objects / pictures / print / Braille.

Language teaching must be based on multiple experience that will help the child understand the meaning of words that he is learning to use. Materials used for language must be real, touchable things that the child can use. Multi-sensory cues can be used to encourage the child to acquire concepts and language.

Getting children ready for more formal Reading and Writing :-

Reading :-

Reading is based on language, and language is based on concepts developed from interactions with people and the environment. Part of those interactions is spoken or signed language – sharing ideas about the environment and naming objects, people and abstract concepts like feelings. As the child begins to make sense of the written word, his language expands and he begins to read for both information and pleasure.

A child's beginning reading vocabulary includes his name, names of people in his life and objects and his possessions. By the time children are ready to read and write they will have already acquired a great deal of receptive language. Deafblind Children with additional disabilities also need to be exposed to language and conversational interactions before we expect them to be able to read and write.

After a child begins to read single words through repeated exposure in meaningful situations, his reading vocabulary can be expanded to include his day-to-day activities and names of his favourite objects and activities. His possessions and environment can be labeled with motivating and interesting words.

Language and concepts can be taught and expanded very effectively through the Unit-based approach. A unit-based approach uses a central theme to teach all subjects and language. It is an integrated way of teaching and linking subject matter and encouraging reading in children. For, e.g. if the theme is "Transport", then all the languages and concepts taught to the child in that month will be on different transport. How they work, people who work them, math problems on transport, drawing / making transport models, songs on transport and so on.

Simple picture storybooks that are visual / tactile, and have single words on each page is a good way to encourage reading. As the child's language grows, more complex story books can be used for story telling as well as reading. Teacher made books, charts, storybooks and experience stories made with the children are the best way to teach children language, concepts and reading.

For children who are at the object or picture reading level, the teacher gradually fades away the objects and pictures and substitutes them with the print form as the child's competencies increase.

Children who are more academic can be introduced to regular graded reading series. For Deafblind children with additional disabilities care must be taken to ensure that the language in these books is interesting and not too full of idioms and abstract language that discourage the child from reading.

Bright, attractive classrooms and teaching areas that have a good visual and tactile display of language materials greatly encourage a child to read.

Writing :-

Deafblind Children may have problems in writing due to vision impairments and difficulties with eye hand coordination. As teachers we need to be aware of the special need of our children.

Children need to be encouraged to express their ideas and thoughts in writing as much as possible. If the child is slow, we need to give him extra time to write. If he has difficulty in forming letters, give him support. Even if the letters are not clearly formed, we must accept them. The child can be encouraged to form better letters in other teaching sessions. For children, who have difficulty in writing full sentences, we can give them objective papers to write that require him to only check, cross or circle an answer. If a child has problems in seeing clearly, we can provide the child with wide-lined paper, dark pencils or markers. White paper with black pens makes a good color contrast for children with low vision.

The language of the child must be corrected with caution. His diary writing needs to be left uncorrected to avoid lowering of the child's self esteem. The teacher can keep the child's grammar mistakes in mind when teaching language, and thus correct them in a different class.

Should a deafblind child be taught Braille or print?

Whether a child will be able to learn Braille or Print will depend on his;

1. Cognitive ability
2. His residual senses
3. His interest level, and

4. The practicality of his reading and writing in future

Print needs to be taught to a child who is more visual than tactual. Although the size of the letters can be increased to make reading easier, the practical aspects must be considered as this will make reading more difficult if he sees only one letter at a time.

Braille is a more complex system that has alphabets and contractions and abbreviations as well as punctuation symbols. The differences between Braille symbols are finer than print letters, and recognition depends on making detailed spatial discriminations. Braille requires the development of motor skills as well as fine tactile skills.

Braille also requires spatial orientation, both in recognizing letters as well as following lines in an organized way across the page.

Pre-Braille activities that encourage fine tactile discrimination skills will prepare the child to read Braille. A child who is to learn Braille needs many experiences to help him understand the functions of Braille as well as countless opportunities to practice tactual discrimination.

The child can be exposed to Braille in many forms - name labels, simple books to play and touch, labels on his object calendar, and signs in his school and home environment.

Thus a child who has good useful vision, which he uses to get information, can learn print, whereas a child who is more tactual can learn Braille. But to learn Braille, a child also needs to be bright, have curiosity about his environment and have good language skills. Braille is very suitable for academic children whose language, reading and writing skills will continue to expand and develop.

Pre-Braille activities for Braille Learners :-

A child who is learning Braille needs to have some specific skills such as;

1. Tactual perception
2. Spatial orientation, and
3. Left / right and top / bottom organized movement

Pre-Braille activities should be done in everyday situations so that they have meaning for the student. Art and craft activities, play activities are examples of everyday activities to teach pre-Braille skills.

Some examples of activities :-

1. Matching & sorting of small objects that require using fingertips.
2. Matching textures, beginning with ones that are very different from each other.
3. Finding two similar objects like buttons, spoons, rings, etc.
4. Matching shapes and designs formed by sticking yarn on cards.
5. Finding a single Braille cell on a paper and covering it with a sticker, Putting a sticker at each end of a Braille line, by following the line with the fingers.
6. Finding the Braille word in each line of single Braille dots and putting a sticker under it. Words that are motivating to the child can be used e.g. his name, favourite food, toy.
7. Putting small objects in a container with many divisions, following left to right, top to bottom, using one hand to locate the space and the other to place the object. Different toys can be used to give practice in placing in orderly rows.

8. Imitating or continuing sequences started by the teacher, using beads, blocks, shapes, cars and other toys. The child can also start a sequence for the teachers to follow.

While teaching Braille, consider the following things:-

Expose the child to the whole word before you introduce single letters. Read Braille stories, expose him to Braille names of objects and labeling of the environment in the same way as we introduce print. Teach the child that the top of a Braille card will always have a Braille line across it, or that the top right corner will be cut off. Encourage the child to read Braille as well as use a Braille for writing. Systematic teaching and exposure to the written form will encourage literacy skills in children who read and write Braille.

Teaching Skills :-

It is essential to use a multi sensory approach when teaching children with sensory impairments, particularly if they are also developmentally delayed. It has been estimated that 75 percent of learning is visual but a blind child cannot learn through the visual mode which is the basis of most standard curricula. Nor is it effective to simply transcribe print text into Braille for many multi handicapped children. Such students benefit from a direct hands on approach that fosters the development of other senses. In addition, the senses of taste and smell can also help children to develop a deeper understanding of their environment. Ideally, each of the senses should be incorporated into an integrated teaching approach to encourage children to explore the world around them.

It is no secret that we all learn best when we are interested and motivated. Make the most of those moments, which are often completely unplanned, but when the student is drawn toward a particular item or idea. For example, a teacher may have prepared a classroom lesson on following directions, but while on the playground, an opportunity arises to apply the concepts of the lesson. The student is enjoying swinging and is reluctant to come inside. The same skills can be taught outside by having the student “stop” and “go” or swing “fast” and “slow”. It is important to be flexible and to take advantage of these moments since a child may ultimately learn more from these spontaneous intervals than from a structured lesson.

Selection of a Student’s Reading Media :-

Several factors should be considered in determining a students’ reading media. In addition, periodic evaluation of the appropriateness of the choice of reading and writing media should be performed, because what is most effective for a student may change. Different reading and writing media may also be learned and used for different purposes. Factors to consider include the following :

1. The efficiency with which the student gains information overall from the senses.
2. The students’ tactile efficiency.
3. The students’ visual efficiency.
4. The stability of the students’ auditory ability.
5. The types of learning media the student uses or can use to perform various tasks.
6. The students’ comprehension using various media.
7. The students’ stamina in using various media.
8. The students’ potential ability to communicate accurately and effectively using various media.

9. The student's observed preference for exploring the environment.
10. The portability of reading media as they relate to the performance of various tasks.
11. The student's potentially achievable reading rates using various media.
12. The student's potential accuracy using various media.
13. The student's lifelong planning, both personal and vocational.

Using Materials :-

Whenever possible, try to incorporate materials that are of interest to the student. If a child loves musical instruments, but the goal of the lesson is to teach sorting skills, have her sort small jingle bells and shakers. Similarly, in a counting lesson have the student count cassette tapes if that is what motivates her. Be aware, however, that some students may get distracted on particular topics or materials in an inappropriate manner. Familiar materials or "enticers" may be phased out or replaced eventually with some students. The educational team will need to decide how to balance the introduction of new topics to broaden a student's interest, with the use of familiar, motivating materials that can help to develop new concepts.

Most students will not be able to learn new skills in a single session, but need repetition in order to master new concepts. Give them the opportunity to practice these skills in structured lessons, as well as in the natural setting during the course of the day.

Teaching and Communication :-

In our desire to care for, to teach and to entertain child, our natural instinct is to take over. It takes a conscious effort not to anticipate quickly what our child needs, not to tell her what to do, not to choose her play activities. It requires a conscious effort to take a moment, often it's only a few seconds, to **observe, wait** and **listen** to our child.

Taking the time to:

Observe – helps us recognize our child's feelings and needs

Wait – gives our child a chance to express herself in her own way

Listen – encourages our child to express herself.

As parents and teachers our care and concern for our children and the time we spend with them give us endless opportunities to observe them carefully and get to know and understand them better. Even when our children don't use words, we can easily recognize their feelings or needs when we take the time to observe their Focus attention, Facial expression and Body language. It takes time and determination to get to know the unique combination of body language and sounds that each child uses to communicate.

Waiting for our child to communicate is hard to do. As adults, we also feel that it's our duty to teach, test our child's knowledge and conduct conversation. And so we tend not to wait for our child to express himself. Instead, we try to help in our own adult ways. Taking over is a natural, even instinctive, reaction on our part. However, if we want to help our child learn, we must give him a chance to express himself in his own way. Waiting gives us the chance to get to know our child. We can watch for his focus of attention, look at the expression on his face, and listen to the sounds he makes.

If we listen attentively to our child, our undivided attention will give our child the security and encouragement to make his efforts worthwhile. If we listen attentively to our child, we will also understand him better and be able to respond more sensitively to him. The

only way to know where a child is at, is to listen to what he is saying. You can't do this if you are talking.

In the beginning when most children have very little interest in looking at books, creative planning can make a big difference in getting and keeping their attention. We can

1. Begin with "feel", "smell" or "do" books designed to allow a child to participate actively – to touch, smell and taste.
2. Have familiar objects nearby like cup, a pillow, or a cap that are pictured in the books, so that the child can see them and touch them.
3. Allow the child to lead – let him turn the pages and choose the pictures he wants to look at.
4. Choose books about the child's everyday experiences.

Our child will enjoy and be able to learn more from books that are matched to his level of understanding. Spending a special time each day sharing books with our child can become a happy habit.

Keep in mind the following rules when teaching visually and hearing impaired children.

1. Praise and encourage the child but also set them high standards.
2. The child needs extra help but they must also be as independent as possible.
3. Include them in all the class's activities.
4. The child do not read and write as fast as fully sighted children. Keep this in account when planning lessons.
5. Encourage the child to use their other senses as much as possible.
6. Involve each member of family in their child's education.
7. Keep up-to-date records.

Helping a child to move toward Reading and Writing :-

The following are some basic steps that teachers and parents can take to enable a child who is deafblind to move from exploring the environment to reading and writing.

1. Help the child to develop an interest in and awareness of the environment
2. Help the child to recognize familiar things in the environment.
3. Help the child to learn the names of objects in the environment and then move to actions.
4. Provide opportunities for the child to communicate about activities that occur at home and in the community
5. Provide exposure to appropriate written language.
6. Provide story time activities.
7. Provide opportunities to "write" or "draw" in various ways
8. Provide a calendar or time charts that help the child predict sequences of events during the day, week, month, and year
9. Repeat these steps over and over.

Specific activities for Reading, Writing and Number Readiness :-

The success of any activity depends on how well its preparation has been done. Reading and writing also require preparation, especially when it has to be taught to young children. When children enter school for the first time, they should not immediately be loaded with books, nor should they be asked to take a pencil and start writing. Children should come to school happily and take interest in the school activities. Keeping this in view, games, songs, stories and other creative activities should be included. Similarly, during the preparatory period it is also necessary to introduce such

activities which help the child to learn to Read-Write easily and acquire concept of numbers.

The child should be given enough opportunities to learn and experience various textures, shapes and sizes. This shall enable them to identify and recognize the form of Braille letters.

Reading Readiness :-

1. Begin with two object of different sizes
2. Give fruits to children. Let them identify. It is a must for a deafblind child to touch, smell and taste the fruits.
3. Braille the child's name and let him touch it. Ask the child to name it. Explain its utility
4. Let the child match the shapes and textures.
5. Make Braille dots and leave places in between. Let the child point out where the gap is.

Writing Readiness :-

Play way method can be used.

1. Concepts of 6 dots with use of egg box
2. Marble board

This can be locally prepared with a small wooden plank where grooves are made so that if a marble is placed half the marble is accessible to touch. The child is asked to place each marble in order by telling the numbers. Once all the 6 marbles are placed. Let him remove one by until all six are removed. The marble board exercise should be given to the child till he masters the concept of 6 from a cell in Braille.

Once marble board is mastered Peg Board specially meant for these children can be introduced.

1. The children are asked to insert pegs in one cell i.e. 6 holes 1,2,3, on the left vertical line from top to bottom, then 4,5,6 on the right vertical holes top to bottom.
2. Then they should go to the next cell that is on the right of the first one.
3. Once the upper line is over, cells in the bottom line should be pegged.
4. Let the children insert only one peg in 1 position in all the cells.
5. Let the children insert 1 and 2 pegs in all the cells and the like.
6. This exercise should be given till the child acquires skill to insert pegs in the board at random following instruction. If the child is asked to insert 4,5 pegs he should be able to do that, leaving the other holes.

The above peg board exercises should be extensively given to children. Basically inserting various combination of pegs help the child to write Braille in future.

Braille as a reading and writing medium :-

Any deafblind student who cannot use print and who can acquire the skills of reading and writing should learn to read in Braille. There is no standard beginning reading series, whether transcribed from print to Braille or planned especially for teaching reading in Braille, that can easily be used with deafblind students. The level of language is often too abstract and the children's experiences, on which the development of language is based, depends is more limited than are those of children who are blind. Therefore, it is

preferable for classroom teachers to make their own Braille materials, fitting them to a students' level of language and information, vocabulary, and interest.

Theory into Practice :-

A deafblind student may be a good candidate for learning to read in Braille if he or she can :

1. Share ideas or converse about simple topics, follow simple directions, and express what he or she wants.
2. Think about and communicate not only immediate daily experiences, but non routine experiences what others are doing, his or her family life, and what he or she plans to do in the future.
3. Remember sequences.
4. Make fine tactile discriminations.
5. Handle and work with items or materials by touch in an organized fashion, because Braille must be followed from left to right and top to bottom.
6. Do detailed work and pay attention for prolonged periods.

Print and Large Print :-

Print is defined by its size and style. Regular print uses many different type faces and comes in sizes that enable the normal reader to read about 14 inches away from the page. Large print readers often have eye conditions that prevent the use of central vision but allow them to use peripheral vision. Since the loss of central vision blocks out fine visual acuity used for activities such as reading and sewing, for them print letters need to be large enough for the effective use of peripheral vision.

When people think of large print, they often think of huge books that contain large print material. This is only one way to produce large print for someone to read. Today's technology allows for computer production with scalable fonts, specialized software that produces large print on computer displays, high quality photocopy equipment that allows for various enlargements, close circuit television that magnify regular print and enlarge it for use with a television screens, and many optical devices that magnify regular print. It is important to remember that some individuals who are deafblind will read regular print with no adaptations. For example, individuals with Usher syndrome may retain good central vision into adulthood, and although peripheral vision losses may prevent or limit such activities as driving, vision for reading small print may be satisfactory.

When regular print can be used functionally for reading, a person who is deafblind will not need large print adaptations, and more materials will be readily accessible. Some students, however will need to rely on the use of low vision devices, which include eyeglasses, magnifiers, telescopes and closed circuit television for reading print.



Reference:

1. It takes two to talk - A Parent's guide to helping children communicate by Ayala Manolson
2. Hand in Hand – Essentials of Communication and Orientation and Mobility for your students who are Deafblind - Volume II by Kathleen Mary, Jeanne Glidden, Therese Welch and Elga Joffe : American Foundation for the Blind, New York

3. Education of children with Deafblindness and Additional Disabilities – Source book for Master Trainers – National Institute for the Mentally Handicapped, Secunderabad, India
4. An orientation and mobility primer for families and young children by Dodson Burk and Everett W. Hill : American Foundation for the Blind, New York