B. Ed. Spl. Ed. (M. R. / H. I. / V. I)-
ODL Programme

AREA - C

C - 13 (V.I.) : CURRICULUM ADAPTATION AND STRATEGIES FOR TEACHING EXPANDED CURRICULUM

A COLLABORATIVE PROGRAMME OF
NETAJI SUBHAS OPEN UNIVERSITY
AND
REHABILITATION COUNCIL OF INDIA

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AREA - C
DISABILITY SPECIALIZATION
COURSE CODE - C-13 (V.I)
CURRICULUM, ADAPTATION AND STRATEGIES FOR TEACHING
EXPANDED CURRICULUM

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The Self Instructional Material (SIM) is prepared keeping conformity with the B.Ed.Spl. Edn.(MR/HI/VI) Programme as prepared and circulated by the Rehabilitation Council of India, New Delhi and adopted by NSOU on and from the 2015-2017 academic session.

Mohan Kumar Chattopadhyay
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Netaji Subhas Open University

From the Vice-Chancellor's Desk

Dear Students, from this Academic Session (2015-17) the Curriculum and Course Structure of B. Ed.- Special Education have been thoroughly revised as per the stipulations which featured in the Memorandum of Understanding (MoU) between the Rehabilitation Council of India (RCI) and the National Council for Teacher Education (NCTE). The newly designed course structure and syllabus is comprehensive and futuristic has, therefore, been contextualized and adopted by NSOU from the present academic session, following the directives of the aforesaid national statutory authorities.

Consequent upon the introduction of new syllabus the revision of Self Instructional Material (SIM) becomes imperative. The new syllabus was circulated by RCI for introduction in the month of June, 2015 while the new session begins in the month of July. So the difficulties of preparing the SIMs within such a short time can easily be understood. However, the School of Education of NSOU took up the challenge and put the best minds together in preparing SIM without compromising the standard and quality of such an academic package. It required many rigorous steps before printing and circulation of the entire academic package to our dear learners. Every intervening step was meticulously and methodically followed for ensuring quality in such a time bound manner.

The SIMs are prepared by eminent subject experts and edited by the senior members of the faculty specializing in the discipline concerned. Printing of the SIMs has been done with utmost care and attention. Students are the primary beneficiaries of these materials so developed. Therefore, you must go through the contents seriously and take your queries, if any, to the Counselors during Personal Contact Programs (PCPs) for clarifications. In comparison to F2F mode, the onus is on the learners in the ODL mode. So please change your mind accordingly and shrug off your old mindset of teacher dependence and spoon feeding habits immediately.

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I would further urge you to go for other Open Educational Resources (OERs) - available on websites, for better understanding and gaining comprehensive mastery over the subject. From this year NSOU is also providing ICT enabled support services to the students enrolled under this University. So, in addition to the printed SIMs, the e-contents are also provided to the students to facilitate the usage and ensure more flexibility at the user end. The other ICT based support systems will be there for the benefit of the learners.

So please make the most of it and do your best in the examinations. However, any suggestion or constructive criticism regarding the SIMs and its improvement is welcome. 1 must acknowledge the contribution of all the content writers, editors and background minds at the SoE, NSOU for their respective efforts, expertise and hard work in producing the SIMs within a very short time.

Professor (Dr.) Subha Sankar Sarkar
Vice-Chancellor, NSOU

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Unit - 1 ❐ Concept and Types of Curriculum

Structure

1.1 Introduction

The developmental process of constructing knowledge and experience in such a way that it will increase the ability of the student to grow in spiritual and emotional maturity as well as in academic excellence. The prime aim of education has shifted to totality of experiences from acquisition of knowledge. As education is regarded as a dynamic process so the aim and objectives have changed. In order to justify the aims and objectives of a subject as well as a course it is essential to know what to teach. So vast is the field of sciences that it is no small problem to decide what facts should be taught. It is therefore very essential to develop or prepare or construct or organize curriculum which should meet the requirements of need of the society setting aims and objectives of the course. The curriculum is developed in different countries in different ways.

1.2 Objectives

After going through this unit you will able to:

1. Explain the concept and types of curriculum.
2. Know about the various approaches of curriculum related to special education
3. Describe about the curriculum planning and the role of special teacher.

4. Narrate core curriculum and expanded core curriculum for children with visual impairment.

1.3 Concept, Meaning and Need for Curriculum

1.3.1 Concept

The term curriculum is often used to describe only the goals, objectives, or plans, something distinct from the "means" of methods, materials, and assessment. Yet since each of these components are essential for effective learning-and since each includes hidden barriers that undermine student efforts to become master learners-curriculum design should consider each of them as a piece. On the other hand, according to secondary education commission curriculum much more than the boundaries by the academic subjects taught traditionally it should include totality of experiences that a pupil receives through manifold activities that go on in the school, in the classroom, library, laboratory, workshop, playgrounds and in the numerous informal activities and connection between teachers and pupil. But these guidelines apply to the general education curriculum which, when universally designed, should meet the educational needs of most students, including those with disabilities and also this document can help guide the design of expectations, content, methods, and outcomes across differing classrooms in each school or system.

1.3.2 Meaning

The term "curriculum" has different interpretations among scholars. According to Kelly (1999), curriculum is negatively viewed as a "syllabus which may limit the planning of teachers to a consideration of the content or the body of knowledge they wish to transmit or a list of the subjects to be taught or both". In other words, simply convey subject knowledge is insufficient to be an effective curriculum. It should offer much more than a statement about the knowledge-content in order to be a productive curriculum. But in the Hong Kong Yearbook published in the year of 2006, curriculum is more positive in nature, which could achieve the objective of motivating learning, enhancing knowledge and abilities and developing positive values or even attitudes. These elements could help achieve whole-person development of students. These two ideas are polarized, yet they are not contradicted with each other in a sense that they just view curriculum in either macro or micro level. For the first one proposed by Kelly (1999), possibly he comments it in micro level. Undoubtedly, curriculum has the possibility of restricting what in-service teachers would like to teach in lessons. If the school tends to stick to the

curriculum suggested by the education department, its negative effect will become more explicit. Whereas in the Hong Kong Yearbook published in 2006, the commentator could evaluate the curriculum in macro level.Before 2000, still used traditional curriculum, which put emphasis on knowledge aspect instead of immersing other generic skills in the subjects, as the major guideline for schools except international ones. After 2000, the EDB started curriculum reform by inserting both generic and genetic skills in key learning areas in primary stage. Regarding secondary stage, the department attempts to achieve integrated curriculum. Students have to apply what they have learnt with various skills. In other western countries such as the US, the education department stresses the importance of merging skills to subjects so that students can apply them in authentic situations. With different timeframe and social values, the society will have different comments on the term "curriculum".

1.3.3 Need for Curriculum

Curriculum has a broad scope because it is not only about the school, the learners and the teachers. It is also about the development of a society in general. In today's knowledge economy, curriculum plays a vital role in improving the economy of a country. It also provides answers or solutions to the world's pressing conditions and problems, such as environment, politics, socio-economics, and other issues on poverty, climate change and sustainable development. There must be a chain of developmental process to develop a society. The school curriculum particularly in higher education must be developed to preserve the country's national identity and to ensure its economy's growth and stability. For this reason the need of curriculum as follows-

(i) It helps to make the child interested in the process of learning.

(ii) It provides enough scope to the child to learn the things at his own speed.

(iii) It provides the child various opportunities of working in a group.

(iv) It is need oriented.

(v) It helps in development of a sound body.

(vi) It gives a totality of experiences to the pupil.

(vii) It helps to promote a democratic spirit in the child.

(viii) It helps to create self-confidence in the child.

(ix) It helps the child in making full utilisation of his leisure

(xi) It sometimes leads to fatigue and boredom.

(xii) In groups, it becomes difficult to achieve the aim. Sometimes misunderstanding may lead to jealousy among the participants. In such cases it becomes the duty of the teacher to coordinate the activity and remove the misunderstanding.

(xiii) Sometimes an activity may not suit all the members of a group and this leads to lack of interest in some students.

(xiv) In the activity curriculum there is always a possibility that the participant may not be able to master anything those he knows something about various parts of the activity.

(xv) The curriculum should be clearly understood. It specifies not only the traditional subjects taught in school but it includes the totality of experiences that peoples receive through the manifold activities that go on in the school, in the class room, library, laboratory, work shop, play grounds and in numerous informal contacts between teacher and the student. Thus the whole life of the school becomes curriculum that can touch the life of the students at all points and help in evolution of balanced personality.

(xvi) Curriculum should have flexibility and variety so that it can be easily adopted for different needs and interests. It will help to keeping away a sense of frustration that generally creeps in the child if any attempt is made to teach him uncongenial subjects.

(xvii) The curriculum should be vitally and organically related to community life, interpreting for the child, its salient and significant features and permitting him to come in contact with some of its important activities. (activity curriculum).

(xviii) The curriculum should be such as to help to train the students not only for work but also for leisure.

(xix) It should be framed in such a way that there exist as much of inter-relationship between different subjects and also between different topics in the same subject. It means that an attempt be made to keep the contents as "broad field" units so that it is easy to correlate than with life rather than narrow items of information.

But the students who have exceptional ability in health education and physical education, along with students who have a temporary or permanent disability (whether sensory, physical, social, or intellectual), require programmes that extend them, challenge them, and broaden their abilities. These groups of students need programmes adapted and organised to provide access to relevant opportunities, meet their individual needs, and contribute to the development of their awareness of their personal identity and their

sense of self-worth. So it must say that curriculum help these students as follows-

- They are identified early
- They have their learning needs addressed from the beginning, through relevant and consistent programmes
- They work at their own pace
- They work towards goals and face challenges that encourage them to develop to their full potential
- They are valued by their peers, their teachers, the school, and the wider community
- They help to plan programmes to meet their particular learning needs
- They are included in regular lessons (and that resources or teaching approaches are adapted, as appropriate, to meet their special needs).

Whereas the teachers who identify students with special needs should consult with parents, other teachers, and specialist educators before designing and implementing special learn programmes. Students with disabilities should be provided with means of access to all school facilities. And all the programme will be got success on the depend on curriculum.

1.4 Curricular Approaches in Special Education- Developmental, Functional, Eclectic and Universal Design for Learning Approach

1.4.1 Meaning of Curricular Apporaches:

There are varied approaches to development of curriculum. Some are common in both general and special education while some are more suited to children with special needs. It is the responsibility of the teacher to select a suitable approaches or a combination of more than one approach with the aim to reach the student with the most suited curriculum and instructional process.

1.4.2 Developmental Approach

The Developmental Approach Most developmental curriculum models have been derived from the work of Jean Piaget and his colleagues, who described cognitive development in children. Although individual models vary widely in the degree to which they

emphasize Piagetian principles, these models share several key concepts: 1. there is a sequence to mental growth. 2. This sequence is invariant. 3. Earlier steps in the sequence prepare for and provide the base for later steps. 4. This sequence is always in the direction of simple to complex and concrete to abstract.Although earlier stages of the sequence are prerequisite to later stages, they are never entirely displaced by them. When the developmental model is used to make curriculum content decisions, such decisions are typically based on the usual sequence by which without handicapped children develop. Thus, particular attention initially is paid to accurate assessment of the developmental level of the student. This is usually accomplished by use of the same standardized assessment tools utilized with general children. Once the student's initial developmental level has been determined, an educational program is designed to move him or her along the developmental continuum. Such a program is designed both to provide a variety of experiences related to a particular concept and to provide activities that are just slightly more advanced than the child's current level of functioning. As the child accommodates and assimilates new information, the activities are altered slightly so that the concepts presented are slightly beyond the comprehension level of the child, creating "disequilibrium" and providing a new challenge.

Advantages Developmental theory provides the educator with information about the scope and sequence of normal child development. "While assimilation involves changing incoming information, accommodation involves changing the structures used to assimilate information". Brainerd also says that "perhaps the best way to think of . . . assimilation is as an interpretation of information that is made by the individual". Piaget meticulously documented the activities engaged in by children of various ages, and subsequent empirical studies have confirmed many of his observations. These observations provide the educator with a readily available body of information to use when making decisions about teaching strategies. According to developmental theory, this is important because educational activities "must not be too redundant with previous objects or events nor so novel that the child cannot assimilate them into his or her current cognitive organization. In fact, if objects or events are too different or novel, then the (child) may show distress or fear". Thus, one advantage of using developmental theory as the basis for making curricular content decisions is that the educator can be assured of providing the student with activities that appropriately challenge his or her cognitive and conceptual abilities. In addition, developmental theory holds that the optimal condition for generalization occurs when the discrepancy between a newly acquired skill and the existing skill repertoire creates a "just tolerable (conceptual) disequilibrium". This disequilibrium serves to maintain the student's interest by providing

a challenge, and at the same time it allows the student to compare new experiences with similar experiences already in his or her repertoire. Some authors have suggested that the generalization problems experienced by students with autism and other severe handicaps might be minimized if curricular content decisions were based on normal developmental sequences that ensure the appropriate degree of disequilibrium. Disadvantages although the developmental model makes the content debate: This is due in large part to the complexity of Piaget's writings, which are predominantly descriptive and theoretical in nature. The typical educator who attempts to make an applied "translation" of Piagetian theory into curricular content, therefore, faces a formidable task. One unfortunate strategy that has been used to translate Piagetian information into the classroom involves extracting items from developmental assessment tools and using them as the content basis for daily instruction. For example, many assessment tools contain tasks that require the child to find an item hidden under a cup as an indication of the child's acquisition of the concept of object permanence. Similarly, mean sends concept formation might be assessed by asking the child to pull on one end of a blanket in order to obtain a favourite toy placed on the other end. Unfortunately, educational programs often suggest that such activities should be included in the curriculum and taught to students who have "failed" these assessment items. This inappropriate use of developmental assessment information results in the teaching of isolated skills that are quite useless to students in the context of everyday life. Another problem in the use of developmental sequences is the misapplication of the principle that earlier stages are necessary prerequisites to later stages of development. The curricular sequences derived from this principle usually begin with skills acquired by very young nonhandicapped children and progress to more advanced skills that are typically acquired later. Unfortunately, this approach often means that students with autism are taught tasks appropriate only for young children, since they are "not ready" for more sophisticated tasks. This "slavish adherence to a developmental framework" has resulted in the production of hundreds of "pre-" curriculum programs (e.g., those labelled prevocational, preacademic, predomestic, prelanguage, etc.).Development cannot be forced or ignored. If we try and work more than one level of development beyond where the child is at it will just sound like nonsense and they won't understand. If we try to push them to the next level they will keep returning to the previous one whenever they are stressed. So we say this model proposes that development of typical and atypical children progresses in a predictable sequence and that this sequence should be taught to students with disabilities. Several weaknesses are inherent in this approach for students with severe disabilities. First, time can be wasted working on skills which

may never be mastered. Second, not all behaviors in the sequence are necessary for independent functioning nor are they age appropriate as the child grows well beyond the age that development skills are typically mastered. Finally, the child is viewed as "developmentally young". Consequently, the activities and materials used for intervention continue to be less than age appropriate which leads to negative perceptions and low expectations for children with severe disabilities. Unfortunately, the ultimate result is often that adults with autism, having never advanced past the "pre-" skills, have no alternative but to live in "prehomes" (institutions) and to work in "prejobs" (sheltered workshops).A developmental approach to teaching and learning is simply put catering to the needs of the individual learner through an individualised program that works with their development long a range of measures:

Cognitive - their brain readiness for mastery of existing concepts and introduction to new Curriculum challenges

Physical - the physical gross and fine motor skills needed for a range of learning and social skills

Moral Development - developing empathy and compassion

Ego Development - understanding of the self in the world (e.g. time, space, self-reflection)

Faith Development - belief in how their world is controlled (Ghosts and monsters or logical reasoning)

Emotional and Social Development - self- awareness and self -management of emotions and working with others

Self Direction - understanding of learning needs and ways of working (learning styles and organisational skills)

1.4.3 Functional Approach

The functional approach is considered to be the second paradigm of psychology. The idea focuses on the function of the mental processes which involves consciousness's. This approach was developed by William James. What to give and how to give are two important questions which are to be answered before providing education to learner. The concept of curriculum has undergone changes in its meaning from time to time. The education commission held the following view: functional curriculum does not mean only the academicsubjects traditionally taught in the school, but it includes the

sum total of experiences that the child receives at school. At a given time period sometimes emphasis was given on character building, religious and moral values while at another times its objective was to make person a solider, hence to make a person physically capable for showing patriotism. In modern period more emphasis is given on earning bread and butter. Due to this changing scenario one can find variety in the different basis of functional approach in curriculum development depending on the need of at that moment. On the other hand in second language acquisition functional approaches are of similarities with Chomsky's Universal Grammar. Focus is on the of language in real situations(performance) as well as knowledge(competence).A different writers have defined functional curricula or what is sometimes referred to as we skill instruction while there is a common theme imbedded in these and other perspectives described in the literature, there is still a possibility of miscommunication when the term functional is used. The basic notion of functionality implies the usefulness of something for the user. Give that, it is clear that what is functional for one person is not necessarily functional for another person or what is a functional use for an object in one situation may be functional in another situation. Functional curriculum must have a specific context and focus for children with disability. A functional curriculum approach is a way of delivering instructional content that focuses on the concepts and skills needed by all the students with disabilities in the areas of personal, social, daily living and occupational adjustment. What is considered a functional curriculum for any one student would be the content included in that student's curriculum or course of study that targets his or her current and future needs. These needs are based on a non-discriminatory functional assessment approach. As we see the philosophy of this approach is that students with severe disabilities need to acquire age appropriate and functional skills (i.e., skills necessary for functioning independently). The major advantage of the functional approach to curriculum development is that it reflects higher expectations for students with severe disabilities and promotes opportunities to acquire age-appropriate skills. The main weakness of this approach is that there are not established criteria for determining what is functional and relevant for an individual student.

The advantages of functional approaches are as follows:

1. Improve functional competence of children day-to-day living
2. Develops an independent level of functioning in all areas
3. Academic skills are incorporates when the children have ability to learn in them in the area of functional reading, writing, arithmetic, time, money and other related skills.

4. Transfer of classroom learning to application of skills in natural environment is an important aspect of this curriculum.
5. The teacher will choose practical training techniques and material used in daily living according to the task and functions he wants to teach the child in order to develop their functional competence in daily life children will participate fully in the learning experiences in or out of their classroom.

1.4.4 Electic Approach

Philosophy of education can refer to either the academic field of applied philosophy or to any of educational philosophies that promote a specific type or vision of education, and/or which examine the definition, goals and meaning of education. Education and philosophy are closely inter-related. If philosophy is love of knowledge then education is acquisition of knowledge. For a long time education was regarded as a disciplinary process and learning by attempt was important for student. After that child-centered education laid an emphasis on presenting education according to the child's interest. Today these two contradictory forms come to a compromise. Interest has been admitted as the fundamental truth for attraction of the child, and once interest is created; even attempt would not be uninteresting to him. But neither is complete in itself; hence, co-ordination between two is necessary. The study of educational philosophy helps an educationalist to critically evaluate his own practices and make necessary changes in his practice. Philosophy has the potential for provoking revolutionary changes, revises and rejects some of our beliefs, develops analytical and logical skills and reasoning. Educational philosophy clarifies concept and analyses propositions, beliefs and theories of education. A philosophy vision is essential to understand the new trends in the educational systems especially the contemporary educational movement.Eclecticism has been derived from the verb root "elect". To elect means to choose and pick up. The good ideas, concept and principles from various schools of thought have been chosen, picked up and blended together to make a complete philosophy. Thus eclecticism is a philosophy of choice. Eclecticism is nothing but fusion of knowledge from all sources. It is a peculiar type of educational philosophy whichcombines all good ideas and principles from various philosophies. Eclecticism is a conceptual approach that does not hold rigidly to a single paradigm or set of assumptions, but instead draws upon multiple theories, styles, or ideas to gain complementary insights into a subject, or applies different theories in particular cases. It can sometimes seem inelegant or lacking in simplicity, and eclectics are sometimes criticized for lack of consistency in their

thinking. It is, however, common in many fields of study. We live in such an era when dogmatic adherence to a particular philosophy is foolish and is quite harmful. The world is changing very fast. Values are changing rapidly. We require a dynamic outlook and mental flexibility to have an all-round adjustment and optimal development. No philosophy contributes to all aspects of education. Idealism based on spirituality. Naturalism based on materialism. Pragmatism is between the two. While idealism is famous for its high and lofty aims of education, pragmatism is famous for its brilliant principles and curriculum, naturalism for its method of education. No philosophy is full-fledged to provide all things. But we want an integral education for complete living. If we synthesis all good ideas and principles with the best materials of all these philosophies we have to adopt an eclectic approach by harmonizing the conflicting ideologies and blend them together. We have to find unity in diversities through eclectic approach. Due to eclectic tendency, we find in modern education the influence of all the philosophies and tendencies of education. According to his doctrine of naturalism, Rousseau emphasized child-centered education. In modern education also child is developed according to his nature. Pestalozzi has stated that education is the development of the inherent capacities of a child and as such education should develop to the fullest extent the physical, mental and moral capacities of a child. After Pestalozzi, Herbart declared moral character as an aim of education and emphasizing curriculum construction advocated five formal steps of teaching. The third protagonist of psychological tendency, Froebel, insisted that educational process should follow the laws of Nature and considering the child's nature as good emphasized that education should allow complete development of the child through self activity. He argued for a free and unfettered environment for the development of the child and inculcation of sociability. After the advent of psychological tendency, the stage was occupied by scientific tendency. Herbert Spencer insisted that for complete living scientific subjects should occupy a prominent place in the curriculum. He tried to correlate education with actual life and uphold the importance of individualism. But we see that sociologicaltendency in education developed out of scientific tendency. According to sociological tendency, education is required to create such socially citizens who do not prove parasite on others but lead a life of self-reliance. For this purpose emphasis for vocational, technical and universal education began to given. Eclectic tendency has also exercised its influence in the solution of those problems which seemed, at one time, very complex and insoluble. This tendency has brought about a synthesis between the individual and social aims. Both the aims are not contradictory but complimentary and mutually contributory. Another problem to be tackled in the field of education has been of 'interests' and 'efforts'. In ancient times,

there ruled the disciplinary concept of education which upheld the use of 'efforts' in utter disregard of the child's interests. Hence, subjects were given importance with a view to their difficulty and efforts of children to learn them. Due to eclectic tendency both the factors, interests and efforts, are brought together to form a harmonious synthesis of the two to emphasize that a child needs the use of both, the interests as well as efforts, for his fullest development. The third problem is of 'freedom' and 'discipline'. The burning question had been how much freedom and how much discipline, should be provided and enforced. Eclectic tendency has solved this problem quite satisfactorily. Today freedom and discipline, stand integrated as one concept, as two sides of the same coin. Today the hard, rigid and expressionistic concept of discipline stands discredited and through impressionistic and sublimation processes, self-reliance, obedience, self-confidence, self-planning and managing are inculcated in children. This leads to self-discipline. Today freedom means all conductive opportunities for self-development and allowing the same opportunities to other as well. This is possible when each individual adheres to self-discipline and allows others the same rights for self-development through self-efforts, self-experiences and self investigation of new truths. Modern progressive education contains all the essential merits of all the philosophies and tendencies of education. The credit of this synthesis and unified integration goes to eclectic tendency. Philosophy of life has a powerful impact on education. Because eclectic tendency is gaining wider appreciation and acceptance in the life of an individual today, therefore the influence of this tendency on this education is natural. It reflects a harmonious synthesis of all those dynamic ideals and principles. Under the influence of eclectic tendency, all the previous ideologies and tendencies are influencing the following aspects of education.

The question has always been arising whether the aim of education is to educate the child for society or for individual progress. The aim of modern education has become individual progress and development and social service. We have seen in the philosophy of Nunn that there is no difference between individual and universal progress. Here comes the role of eclectic tendency. If we look into Prof. Horne's definition this tendency becomes quite evident. According to him, education is a high adjustment of a physically and intellectually developed conscious individual to his intellectual, emotional and volitional environment. In this definition perfect fusion of psychological, scientific and sociological tendencies. Teaching material is no more an important matter, the earning of which should be compulsory for the students, as it is a truth or combination of truths. Modern teaching material is a brief form of civilization and a record of the standards of progress and values of civilization. The civilization of one period cannot be suitable to

another period; therefore, it would have to be changed on the basis of needs and changes. Teaching material is helping student to familiarize themselves with life as teaching is the preparation for life. Therefore, the process of knowing life would also remain changing. Method of teaching is used in order to experiment this material of civilization on the child and to bring desirable changes. This method should be used naturally by the teacher. The knowledge of children, knowledge of modern interests and problems, suppressing the rigid method of teaching and taking the broader meaning of teaching method-all these are symbolical of the teacher's ability. Therefore, a teacher should have knowledge of every method. The burden of the modern teacher has increased because he has to apply new methods with a view to the children's knowledge for the changing age, and the progress of the society. Regarding the method of teaching the kernel of all philosophy is 'method' according to 'circumstances', taking in view the interest of the child. Their emphasis is on motivating instruction, which is the result of the curriculum growing out of the present experiences of children. They have assigned a place for drill and concede the supreme importance of freedom both as an end and as a means to achieve the end. Among method they have a special advocacy for problem solving, which they believe, is on consonance with life's demands. Importance of direct experience is recognized by lending their support to 'play-way' and 'learning by doing'. The above mentioned eclectic tendency is visible not only in the field of education but in every field of education. This tendency is carrying us to a good age where we would be able to establish new ideals, values and standards over narrow and corrupt feelings. With regard to discipline none of the schools of the philosophies supports 'pressionism'. Freedom or free-discipline is their keyword. All the philosophers wish the mature children to play their part in making decisions about the affairs of the schools. They should not be pushed around against their consent. Discipline through knowledge and knowledge through experience is the under-current of all educational philosophies. The teacher's role as a friend, guide, and philosopher, the director of the class, arranger of the experiences to the child, etc. is prominent in modern educational scene. Under the influence of eclectic tendency more and more teacher-training institutions are being opened to provide training to teachers for various grades and levels of education. In ancient and medieval times, provision of education was made by religious institutions. But, under the influence of eclectic tendency, modern education has broken off from religious bonds and has become material and worldly. Under the influence of sociological tendency, the function of school is to prepare dynamic citizens to participate in the social activities successfully. As such, school is now regarded as a miniature society to develop dynamic, enterprising and resourceful citizens. Above discussion makes it

crystal clear that modern education has drawn from all the tendencies namely-psychological, scientific and sociological to a very great extent and this process of synthesizing and gainfully imbibing is known as eclectic tendency. It is the nature of man that he likes change. He wants new and novel ways in every field of work. The same is the case with learning process. Learners always like something new and exciting. This approach is broad and may include every kind of learning activity and saves learner from monotony. It is more appropriate for Pre School learning but not less beneficial in the class rooms. It is helpful in all kinds of skills in stimulating a creative environment and gives confidence to the learners. In this approach children discovers and in still good ways of learning. Above all this approach gives a chance to our common sense to mould and shape our method according to the circumstances and available materials of teaching aids. There may be gaps in learning, if you are frequently switching curriculum. This approach can lack disciplined learning and allow for laziness. Without grabbing to one approach, curriculum choices and overall directions can be confusing and overwhelming. The conception of education today is very broad and that our educational thinking in its totality has been affected not by one single philosophical thought or tendency but by the cumulative experience of past generations in the field of education. Our educational ideals and practices may consequently be traced to various sources all of which have been harmoniously blended to determine the present-day educational principles and practices. Eclectic approach is a method of language education that combines various approaches and methodologies to teach language depending on the aims of the lesson and the abilities of the learners. Different teaching methods are borrowed and adapted to suit the requirement of the learners. It breaks the monotony of the class. The teacher has more flexibility. No aspect of language skill is ignored. There is variety in the classroom. Classroom atmosphere is dynamic. In eclectic approach, the teacher can choose from these different methods and approaches:

- Grammar-translation Method: It is a method of teaching languages by which students learn grammatical rules and then apply those rules by translating between the target language and the native language.
- Direct Method: In this method the teacher refrains from using the students' native language. The target language is directly used for teaching all the four skills-listening, speaking, reading and writing.
- Structural-situational Approach: In this approach, the teacher teaches language through a careful selection, gradation and presentation of vocabulary items and structures through situation based activities.

- Audio-lingual/Audio-visual Method: In this style of teaching students are taught through a system of reinforcement. Here new words and grammar are directly taught without using the students' native language. However, unlike direct method, audio-lingual method does not focus on vocabulary. Instead, the teacher focuses on grammar through drill and practice.
- Bilingual Method: The word 'bilingual' means two languages. In bilingual method, the teacher teaches the language by giving mother tongue equivalents of the words or sentences.
- Communicative Language Teaching: This approach lays emphasis on oral method of teaching. It aims to develop communicative competence in students.
- Total-Physical Response: It is based on the theory that memory is enhanced through association with physical response.
- The Silent Way: In this method the teacher uses a combination of silence and gestures to focus students' attention.

1.4.5 Universal Design for Learning Approach

Universal Design for Learning is an educational framework based on research in the learning sciences, including cognitive neuroscience that guides the development of flexible learning environments that can accommodate individual learning differences.Recognizing that the way individuals learn can be unique, the universal design for learning framework, first defined by David H. Rose, in the 1990s,calls for creating curriculum from the outset that provides:multiple means of representation to give learners various ways of acquiring information and knowledge,multiple means of expression to provide learners alternatives for demonstrating what they know, andmultiple means of engagement to tap into learners' interests, challenge them appropriately, and motivate them to learn.Curriculum, as defined in the universal design for learning literature, has four parts: instructional goals, methods, materials, and assessments. Universal design for learning is intended to increase access to learning by reducing physical, cognitive, intellectual, and organizational barriers to learning, as well as other obstacles. Universal designs for learning principles also lend themselves to implementing inclusionary practices in the classroom. Universal Design for Learning is referred to by name in the Higher Education Opportunity Act of 2008 (Public Law 110-315).It is also mentioned in the 2004 reauthorization of the Individuals with

Disabilities Education Act (IDEA), which in turn refers to a legal definition of the term in the Assistive Technology Act of 1998. The emphasis being placed on equal access to curriculum by all students and the accountability required by IDEA 2004 and No Child Left Behind legislation has presented a need for a practice that will accommodate all learners.The concept and language of Universal Design for Learning was inspired by the universal design movement in architecture and product development, originally formulated by Ronald at North Carolina StateUniversity. Universal design calls for "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design". Universal design for learning applies this general idea to learning: that curriculum should from the outset be designed to accommodate all kinds of learners. Educators have to be deliberate in the teaching and learning process in the classroom (Preparing class learning profiles for each student). This will enable grouping by interest. Those students that have challenges will be given special assistance. This will enable specific multimedia to meet the needs of all students. However, recognizing that the UD principles created to guide the design of things (e.g., buildings, products) are not adequate for the design of social interactions (e.g., human learning environments), researchers at CAST looked to the neurosciences and theories of progressive education in developing the universal design for learning principles. In particular, the work of Lev Vygotsky and, less directly, Benjamin Bloom informed the three-part universal design for learning framework.Some educational initiatives, such as Universal Design for Instruction (UDI) and Universal Instructional Design (UID), adapt the Mace principles for products and environments to learning environments, primarily at the postsecondary level. While these initiatives are similar to universal design for learning and have, in some cases, compatible goals, they are not equivalent to universal design for learning and the terms are not interchangeable; they refer to distinct frameworks.

Despite the popularity of universal design for learning among educators and disability support professionals, little research has been conducted to evaluate its effectiveness as a model of good pedagogy. However, a number of studies have appeared in recent years, providing preliminary data in support of this instructional model. For example, a recent study at Colorado State University found "recognizable changes in instructor behaviour" from only a few hours of training in universal design for learning principles and teaching practices. The same study described the creation of a research questionnaire for students and instructors, based on universal design for learning's three principles. Universal design for learning can be used in the support of students with disabilities and as well as learning differences. In actual case studies conducted by Elizabeth McAra-

Craford applying Universal Design principles expands the ability of students to access needed supports in post-secondary settings.

Universal design for learning presents information in ways that adapt to the learner, instead of asking the learner to adapt to the information. This is good for kids with learning and attention issues because it gives them more than one way to interact with material. Universal design for learning can make it easier for kids to use their strengths to work on their weaknesses. To understand what Universal Design for Learning is, it helps to understand what it's not. The word "universal" may throw you off. It may sound as though universal design for learning is about finding one way to teach all kids. But universal design for learning actually takes the opposite approach. The goal of universal design for learning is to use a variety of teaching methods to remove any barriers to learning and give all students equal opportunities to succeed. Universal design for learning doesn't specifically target kids with learning and attention issues. It's about building in flexibility that can be adjusted forever student's strengths and needs. Even if you're not familiar with the phrase "universal design," you've most likely encountered many examples of it in your everyday life. Closed captions, automatic doors and accessibility features on smartphones are all examples of universal design. These design elements help people with disabilities. But people who don't have disabilities may also want to use them. Universal design for learning provides that same kind of flexibility in the classroom. The goal of universal design for learning is to present school subjects so that all learners can access the information, and to give learners different ways to demonstrate their knowledge. Universal design for learning is based on three main principles:

- Representation: universal design for learning offers information in more than one format. For example, textbooks are primarily visual. But providing text, audio, video and hands-on learning gives all kids a chance to access the material in whichever way is best suited to their learning.
- Action and expression: universal design for learning gives kids more than one way to interact with the material and to show what they've learned. For example, teachers can assess students using pencil-and-paper tests, oral presentations or group projects.
- Engagement: universal design for learning looks for different ways to motivate students. Letting kids make choices and giving them assignments that feel relevant to their lives are some examples of how teachers can sustain students' interest. Other common strategies include making skill building feel like a game and creating opportunities for students to get up and move around the classroom.

1.5 Types of Curriculum- Need Based, Knowledge Based, Activity Based, Skill Based and Hidden Curriculum

1.5.1 Meaning for Types of Curriculum

Since curriculum reflects the models of instructional delivery chosen and used, some might indicate that curriculum could be categorized according to the common psychological classifications of the four families of learning theories "Social, Information Processing, Personalist, and Behavioural." Longstreet and Shane have dubbed divisions in curricular orientations as: child-centered, society-centered, knowledge-centered, or eclectic. Common philosophical orientations of curriculum parallel those beliefs espoused by different philosophical orientations - Idealism, Realism, Perennialism, Essentialism, Experimentalism, Existentialism, Constructivism, Reconstructivism and the like. Whatever classification one gravitates to, the fact remains that at one time or another curriculum in the United States has, at some level, been impacted by all of the above. In essence, American curriculum is hard to pin down because it is multi-layered and highly eclectic.Anything and everything that teaches a lesson, planned or otherwise. Humansare born learning, thus the learned curriculum actually encompasses acombination of all of the following - the hidden, null, written, political and societal etc. Since students learn all the time through exposure and modelled behaviors, this means that they learn important social and emotional lessons from everyone who inhabits a school - from the janitorial star, the secretary, the cafeteria workers, their peers, as well as from the deportment, conduct and attitudes expressed and modelled by their teachers. Many educators are unaware of the strong lessons imparted to youth by these everyday contacts.

1.5.2 Need Based Curriculum

Curriculum is the most challenging field of study,since after one century of its formal existence as a scientific field of study, there is not,yet,any agreement among the specialists and experts about the elements and dimensions and even the concept of curriculum. Curriculum needs assessment as a part of curriculum, has, also, the same problem and there is not, yet, any stable conception of this definition, in spite of its extensive application, its utilization for justification of importance and necessities of curriculum and changing needs assessment into a principle for distribution of facilities and sources in connection with different projects. Ambiguity in needs definition led many bias - accepted studies to fail in presentation a comprehensive conception of needs. Some of

the specialists like Mattimor and Knudson san used some alternative definition such as "situation assessment", and "situation Analysis" and also, some other specialists like Kliaton believed that the term "needs" must be deleted from the literature of education. This reveals that how challenging needs conception may be. We can introduce, however, the most important needs - definition as following:

1. **"Needs" as a want or preference:**

In the first conception, some people may believe that "needs" is the equivalent of one's want or one's preference. This definition of "needs" which is sometimes called "democratic conception," respects the views of majority of people about a specific subject. None the less; this conception has been criticized because of three reasons first of all, because the people's views are considered to be subjective, secondly , people are not awarded of their real needs and thirdly since the needs concept is not the same as want concept.

2. **"Needs" as a deficit or as a problem:**

In this regard, need is a kind of deficit or a kind of problem in a particular field which is innately harmful. Shriven advocates this definition which is referred as problem - approach. In this view, 'need' implies the situation in which minimum satisfactory level is not attained. The concept of minimum satisfactory level is ambiguous and arguable, since this term is used in some fields such as biology and medicine but there is no evidence in education for it.

3. **"Needs" as a gap or as a discrepancy:**

In the third and the most acceptable conception "needs" is considered as the discrepancy between the present situation and the ideal situation, for instance Kaufman defines needs as a gap between current outcomes and expected outcomes and in this kind of definition, there is a distinction between 'needs' and 'semi needs'. Needs are in relation to outcomes. Whereas , semi needs are in connection with the means of achieving needs andonly after determining needs, one may identify the means of achieving them. As a conclusion, each of the above definitions looks at the needs and needs assessment through a particular point of view. I believe that each of the definitions, depending on the situation, has effective application and one should use situational approach in connection with their application.

To have an easier study, the development of curriculum needs assessment will be discussed in both formal and in informal periods.Informal period is any time of studying curriculum in which needs assessment is not a particular domain and in some extent is

not distinct from other curriculum discussions. Formal period of curriculum is the time through which curriculum specialists can specify and identify the limitations of needs assessment compared with other domains.A general historical study of education shows that in an informal period needs studying is closely related to the development of objectives and information sources. As Tanner mentioned, the emerging curriculum field was being buffeted by conflict and disputationbetween the traditional subject-centered approaches, based upon about adult demands and child-centered approaches in curriculum making decisions. Because of considerable social changes, another group called , social behaviourists were added to the previous battling groups. They were the pioneers of paying attention to the society and its basic needs and they, also, emphasised on the curriculum effectiveness as a means of solving life problems. This conflict which were at the maximum point in 1910s, made such a history of curriculum in which every other time one of the battling views was dominant.

The first systematic study of curriculum was published in 1902 under the title of "the child and the curriculum" by Dewey and he identified three basic learning factors such as ,learner (the immature , undeveloped being) , society (values and adult's objectives) and subject matter as the main factors of educational process. Bobbitt in 1918 wrote the book "the curriculum" considered needs studies and proposed a model under the title of "activity analysis". Because Bobbitt believed education should prepare children to be productive adults , he focused on adult life as the source of curriculum needs assessment. Based on such analysis, he produced a list of over 900 objectives, some of which were to be the starting point for the school curriculum.After these views, from 1933 to 1944, a study entitled eight years study was conducted. Researchers in this study developed a model based upon the following three fundamentalresources; 1) the social demand approach,2) the adolescent - needs approach , and 3)the specialized subject matter approach. The necessity of considering psychological needs,gradually, was expected in curriculum. This procedure was started withSigmund Freud and continued with the views of William Featherstone (1950), Abraham Maslow(1954) , Danial Prescott(1963) , and Erikson. They were the advocates of considering psychological needs in curriculum (unruh and unruh, 1998). Psychological needs were added to the curriculum in 1950s and , therefore , curriculum needs assessment got very complicated. The publication of "Basic Principle of Curriculum and Instruction" by Ralph Tyler' in which he presents his rational model of curriculum, brought about a new prospective for curriculum. Besides emphasizing on triple data sources (society, learner and subject matter), he makes a

distinction between psychological needs and educational needs. He believes that psychological needs are not in the domain of curriculum. In the psychological needs conception , "needs" means not having equilibrium whereas , the task of curricularist is considering 'needs' as a gap , or discrepancy on educational needs. As it is stated up to this stage of curriculum history, though there has been many efforts in curriculum needs assessment studies , these efforts didn't consider needs assessment as an independent domain of curriculum field. Hilda Taba the popular curriculum specialist , extended the Tyler's rational and consequently, introduced needs assessment as an independent stage in curriculum process. She emphasized on seven stages of curriculum and called the first stage, "Diagnosis of needs" Making a distinction between educational needs and psychological needs, in spite of Tyler's view, She believed that one should almost consider psychological needs, and at least,psychological problems must not be considered in curriculum deeply, though the primary objective of curriculum is considering educational needs. Feuerstein, also, for conceptualizing of curriculum stages, has discussed eleven stages that begin with the related diagnosis of needs. From now on, in the literature of curriculum in relation to needs assessment, some independent studies were begun and some models were proposed for it. For instance, discussed two different models which show the position of needs assessment in curriculum. In one conception, curriculum is started with needs assessment and, then, is followed by developinggeneral goals and in another model ``needs study'' is postponed to a stage after developinggeneral goals which are needs, mission, statement, specific objectives, learning activities, Evaluation and mentoring.

Studying the development of needs assessment curriculum, one can conclude the followings:

- There is no agreement on the position of needs assessment in curriculum, particularly; the question that whether needs assessment is the first step of curriculum or it is an approach that takes place after developing the objectives.
- All the proposed models share needs assessment at the stage of curriculum development .All the above mentioned models, accompanied with basic variables of data sources are to drive objectives and develop other elements based on such policies. However, some recent studies, also, prescribe considering needs assessment at the stage of implementing curriculum. For instance, those models that reject linear sequences, avoid anyPreparation for curriculum, and made curriculum decision through student-teacher participation process in the classroom

and through student interests, all advocate this theory. For instance, Macdonald view, depending on Emergent curriculum advocates the necessity of studying curriculum problems including needs assessment at the implementing stage. As a consequence, one can consider the procedure and historical development of curriculum as a static phenomenon and considers need assessment at the developing stage. However; this situation questions the dynamic state of this scientific domain and,therefore, it is necessary to consider needs assessment at the implementation stage.

- History of curriculum shows numerous ideological conflicts in connection with basic data sources and each of the sources has particular advocates, whereas the Tyler's rational (assembling sources in curriculum studies), is dominant in curriculum. It seems one should follow more innovative approach in using data sources and it is not enough to value, equally all the three data sources originating from different ideological conceptions.
- The distinction between psychological needs and educational needs, also, brings about a sort of ambiguity,however, some specialists put emphasis on psychological needs whereas some others emphasize on the educational needs.Furthermore; needs assessment participants, needs assessment mechanisms and methods, the way of utilizing needs assessment outcomes and some other things are not,yet, obviously stated.

1.5.3 Knowledge Based Curriculum

Knowledge based learning on the other hand aims to build upon the knowledge that the pupil already has. There are clear learning objectives set out which link to the activity undertaken; helping the child to see how their existing knowledge will help them to complete the task. Clear guidelines will be set at the beginning of the task which helps the learner to see a clear path to the finish. Along the way they can apply the knowledge they already have, whilst also learning new things. This linear structure helps the pupil to see how they are progressing and can help to highlight where, if any, the gaps are in their knowledge. Using this method, regular feedback is given to help the children know where they have gone wrong and where they are correct. This means that their learning is assessed along the way ensuring that they are making progress. Learning a lot of facts at once can be confusing for children, especially when they have arange of subjects to learn, so it is important to use the knowledge based technique as itmeans

you can easily pin-point where more focus is needed. By drawing on the knowledge a child already has it boosts their confidence as it proves to them that they already have some, if not all, the information they need to complete the required task. And even if they don't, they know where they need to put more focus. For teachers this can mean having more one to one time with pupils to talk through how they are ending the task/ subject and giving any additional help they may need. This can seem time consuming but it will ensure that all pupils are engaged and learning during the lessons, and that they will all succeed.

The National Council for Accreditation of Teacher Education (NCATE) hasestablished standards designed to ensure that teacher education programs maintainhigh academic standards and that program graduates are of a high quality. Toachieve these goals the organization has developed a process whereby professionalexpectations are developed and promulgated through published standards andmonitored by peer review. An examination of NCATE standards provides insights into areas of teachereducation perceived to be in need of attention from a national respective. The 1987standards reflect an effort to improve professional education by encouragingexperimentation and innovation in institutional planning. Current standards focusupon the inclusion of broad knowledge bases that are developed from sound theoriesand scholarly inquiry. By mandating that each accredited unit develop a teachereducation program founded upon broad knowledge bases, NCATE is effectivelyrequiring some teacher education programs to alter current curricula and practices. Historically, some teacher education programs have been experience based.Rather than focusing instruction upon pedagogical theories and research, theseprograms tend to transmit folkways from one generation to the next through faculties'stories and clichés. Current NCATE standards, however, require that accredited teacher education programs be "based on essential knowledge, established and current research findings, and sound professional practices"

NCATE standards further mandate that each program be coherent from anexplicitly stated philosophy through the measurements of program outcomes. Thiscoherency must be achieved through faculty collaboration and be reflected in: "curricular design and planning; course syllabi; instructionaldesign, practice, and evaluation; students' work; use of major journals inthe field by faculty and students; and faculty and students' (especially graduate students) participation in research and synthesis,". The faculty of each teacher education unit must collaborate to develop a coherent curriculum that is founded upon a defensible knowledge base in order to receive accreditation. While the

standards clearly indicate the NCATE expectation, procedures used to achieve these must be developed and implemented by each teacher education unit. Prior to developing a process of identifying and implementing a teachereducation program that will meet the spirit and intent of NCATE standards, a workableoperational definition for knowledge base must be devised. A definition is noticeably absent from the NCATE (1986) glossary of terms. Wisniewski (1989) describes theknowledge base as the intellectual heritage of practitioners which is used to validate or challenge ones scholarship in professional endeaves. To meet NCATE standards each unit must develop an orderly process ininstitutional planning which identifies the knowledge, skills and attitudes that areneeded by professional teachers. Additionally, the process must include provisions forfaculty members to collaborate in developing a coherent and defensible knowledge-based curriculum.

Any disagreement will necessitate a reconsideration of both elements of the model, philosophy, and goals. Both elements are tentative. When coherence between philosophy and goals is established, the process can continue. As courses are identified in the professional education sequence, care must betaken to ensure that each program goal has been assigned to a particular course andthat no goal has been unnecessarily duplicated. This can best be accomplished bydeveloping a matrix.Course Objective Proposed After the goals for each professional education course has been ascertained,faculty members will propose tentative objectives for each goal assigned to theirrespective courses. At this point in the process, the program content is becoming quitespecific and the knowledge base must be continually monitored to ensure program viability. The knowledge base is a set of rigid principles that determines the scope andsequence of an undergraduate teacher education program. Rather, it is a best-yetproduct derived from a continuous process of scholarly inquiry.In reality, the processused in determining the knowledge base for beginning teachers is as important as theproduct.New knowledge is continuously being produced as teachers and teachereducators practice philosophical reflection, develop new theories, find new answersusing research, or make observation as they observe educational practices. Whilethese processes yield new knowledge, not all of the knowledge can or should beincluded in the undergraduate teacher education program. To judge the knowledge that should be included in an undergraduate teachereducation program, several questions need to be asked. The first criterion by whichthe knowledge should be judged is utility. Knowledge included in the undergraduateteacher education program should be useful.

The knowledge should be useful inguiding practices, in assisting teachers, in understanding the behaviour of children, or in assisting teachers to better understand the dynamics of the teaching and learningprocess.The second criterion by which knowledge included in the teacher educationprogram should be judged is its comprehensiveness. An effective teacher educationprogram must present alternative points of view to allow future teachers to evaluate theworth of competing theory bases and practices before making professional decision.Third, the knowledge base that promotes understanding and perspective amongstudents should be presented. The content, skills and attitudes presented, practiced,and encouraged should be structured in ways to ensure that students do not view theknowledge base as a set of rigidly prescribed steps to be followed, but rather asprinciples that may have application in a given situation. Beginning teachers mustrealize that an effective teacher education program helps prepare them to makeprofessional decisions in accord with the conditions of a given situation. A fourth criterion is that knowledge should be included in the undergraduateteacher education program that assists students in developing more comprehensivetheoretical bases. Specific elements of knowledge which fit into a larger theoreticalbase should be considered more valuable than a bit of knowledge that is unrelated toother knowledge. Fifth, knowledge should be included in the teacher education curriculum that isbased upon and supported by research. Students should be taught that knowledgebased upon experience is thinking an experience has value, but many errors can bemade using experience as a primary determinant of professional behaviour. Studentsshould be warned that experience-based decision tend to lead to stimulusgeneralizations in which one experience principle will be used in times and situationsthat are totally out of context with the experience that precipitated its creation. Those objectives that can meet one of the five criteria can then be included in theappropriate professional education course on a tentative basis. This objective mustfurther be found to be acceptable during the process of course development. Content derived from objectives that are included in a particular professionaleducation course must be scrutinized from several perspectives. This examination isdesigned to ensure that the content taught is based upon a sound knowledge baseand is not way that student's gain mastery on various experiences. Such type of projectsshould be completed under a problematic situation in a natural setting.

1.5.4 Skill Based Curriculum

The drive for a skills based curriculum is more and more prevalent. How to deliver such curriculum remains a challenge for a number of schools. The key to success is not logistics. Two main structures support such drive. In one structure, the skill based curriculum is about mapping where the fundamental skills are delivered. It is a hidden skill based curriculum. This is the way to deliver the least changes in the 'traditional' curriculum. The key to success here is always whether this brand of curriculum is driven by the teachers (Cross curriculum work anyone?) or by a manager in his/ her office. You can guess which one is more successful. The other more honest structure represents the traditional 'circle within a circle approach'. The Welsh Bac and International Bac both use this structure to explain their curriculum. Put the core skills in the middle, surround those by the curriculum and you are done. It will work with the IB because they make sure it will. It will work with the Welsh Bac as it is integrated in the assessment structure. It does not always work when this circle is mirrored elsewhere. The key to successhere is always a management issue. Does the management give itself the means to implement their skill based curriculum? When it represents just a fad or a marketing ploy, the skills which are supposedly at the heart of the curriculum are in fact peripheral to it. It is a traditional curriculum with added 'bits'. Whilst the departments (in secondary education) are mostly run as tight ships, the skills area is run by whoever is unlucky enough to be volunteered and delivered by whoever is available. It is a 'left over' approach. Surprisingly this has little impact on results (because it does not really improve any skill). If you are not in the market for the IB or Welsh Bac, you could do a lot worse than considering the EPQ as a cornerstone of your skill based curriculum post 16. The experience you will gain there will easily be transferable to KS3 and 4 later on. The project approach can be tailored to your curriculum needs and the support it requires can be integrated within the pastoral support. It can easily be the central component of your curriculum around which organise themselves the different curriculum areas. This will easily evolve in line with what your school requires, but at least you start from a solid base. You get your circle within a circle curriculum and the skills are clearly at the core Skills based learning centres around developing and applying specific skills that can thenbe used to obtain the required knowledge. The classroom environment will encourageindependence, as well as combining active-learning and collaboration to help the childrenretain the knowledge. This process allows the pupils to 'access, process and then express'the knowledge they have learnt rather than simply writing it down.Tasks

can include working together to assess one another's knowledge and to help eachother to progress and learn. This form of learning is effective for helping children improvetheir self-confidence, which in turn will help them to do well. It also means that they will bemore receptive to other, possibly harder, subjects as they will feel they have the skills andability to tackle the problems in front of them.It not only helps children to learn what they need to succeed in education, develop life skills thatcan help the child togrow and progress as aperson as well. Themain skills this way oflearning will help areinteraction and teamwork,as the childrenwork together to solveproblems and help eachother to achieve theaims.From a teacher's point of view, it changes the way lesson planning is done. Whereas beforethe focus would have been on how they could teach the class about a certain topic, skillsbased learning means that the focus is on how that topic can help the children to developand learn certain skills.

1.5.5 Hidden Curriculum

Nowadays the term "Hidden Curriculum" is very popular but what does it really means in school practice? Here are some of the most significant and meaningful definitions. "Hidden curriculum is a broad category that includes all of the unrecognized and sometimes unintended knowledge, values, and beliefs that are part of the learning process in schools and classrooms."1 According to the Blackwell dictionary of sociology, "Hidden curriculum is a concept used to describe the often unarticulated and unacknowledged things that students are taught in school."2 Moreover, the hidden curriculum generally refers to the "subtle or not-so subtle messages that are not part of the intended

curriculum"3. In short, the term is use to "describe the unwritten, informal code of conduct to which children are expected to conform in the classroom". In other words, hidden curriculum refers to the unintended or implicit values cultivated in the practices exercised in the classroom and educational institutions through the application of the curriculum. For example, "Children are said to be rewarded not only for learning their subject curriculum but appearing to do so with enthusiasm, alertness, and deference to and respect for authority. In this way education imparts not only formal knowledge but an understanding of how to act 'properly' in wider society."4. Also, this can be associated with the instructional practices exercise in the classroom by teachers to cope with the demands of organizational structures over which they have little control as the "set of values, attitudes, knowledge frames, which are embodied in the organization and processes of schooling and which are implicitly conveyed to pupils"5. Finally, in education, "the hidden curriculum refers to the way in which cultural values and attitudes (such as obedience to authority, punctuality, and delayed gratification) are transmitted, through the structure of teaching and the organization of schools."6. There are numerous such messages conveyed indirectly. For example, that reading and mathematics are the most important elementary school subjects is clearly if implicitly communicated by scheduling more time for these subjects than for others, such as science and social studies, scheduling them in morning prime time rather than in the afternoon, and testing them more often than other subjects or skills. Thus, a major purpose of the hidden curriculum of public schools has been cultural transmission or teaching students the routines for getting along in school and the larger society.

In other words, hidden curriculum usually serves to maintain the status quo, specifically the dominant culture and prevailing socioeconomic hierarchy. Hidden Curriculum appears in every school whether public or private, secondary school, high school or University. It is in the way we teach our students to become good citizens and follow the norms of society. Hidden curriculum is acknowledged as the socialization process of schooling. In some ways it can be argued that this so-called hidden curriculum is more important than the regular curriculum. Some will say that this hidden curriculum has not always been acknowledged. The norms of schools will prepare pupils to involve in the life of public sphere. These norms are for example independence, achievement, universalism, and specificity and that these norms are required to teach them in order to collaborate with modern industrial society.

A hidden curriculum is a side effect of an education, which are learned but not openly intended such as the transmission of norms, values, and beliefs conveyed in the classroom

and the social environment.

Any learning experience may teach unintended lessons.Hidden curriculum often refers to knowledge gained in primary and secondary school settings, usually with a negative connotation where the school strives for equal intellectual development (as a positive aim).In this sense, a hidden curriculum reinforces existing social inequalities by educating students according to their class and social status. The unequal distribution of cultural capital in a society mirrors a corresponding distribution of knowledge among its students.Early workers in the field of education were influenced by the notion that the preservation of the social privileges, interests, and knowledge of one group within the population was worth the exploitation of less powerful groups.Over time this theory has become less blatant, yet its underlying tones remain a contributing factor to the issue of the hidden curriculum. Several educational theories have been developed to help give meaning and structure to the hidden curriculum and to illustrate the role that schools play in socialization. Three of these theories, as cited by Henry Giroux and Anthony Penna, are a structural functional view of schooling, a phenomenological view related to the "new" sociology of education, and a radical critical view corresponding to the neo Marxist analysis of the theory and practice of education. The structural functional view focuses on how norms and values are conveyed within schools and how their necessities for the functioning of society become indisputably accepted. The phenomenological view suggests that meaning is created through situational encounters and interactions, and it implies that knowledge is somewhat objective. The radical critical view recognizes the relationship between economic and cultural reproduction and stresses the relationships among the theory, ideology, and social practice of learning. Although the first two theories have contributed to the analysis of the hidden curriculum, the radical critical view of schooling provides the most insight.Most importantly it acknowledges the perpetuated economic and social aspects of education that are clearly illustrated by the hidden curriculum. Various aspects of learning contribute to the success of the hidden curriculum, including practices, procedures, rules, relationships, and structures.Many school specific sources, some of which may be included in these aspects of learning, give rise to important elements of the hidden curriculum. These sources may include, but are not limited to, the social structures of the classroom, the teacher's exercise of authority, rules governing the relationship between teachers and students, standard learning activities, the teacher's use of language, textbooks, audio visual aids, furnishings, architecture, disciplinary measures, timetables, tracking systems, and

curricular priorities. Variations among these sources promote the disparities found when comparing the hidden curricula corresponding to various class and social statuses.

Every school is both an expression of a political situation and a teacher of politics. While the actual material that students absorb through the hidden curriculum is of utmost importance, thepersonnel who convey it elicit special investigation. This particularly applies to the social and moral lessonsconveyed by the hidden curriculum, for the moral characteristics and ideologies of teachers and otherauthority figures are translated into their lessons, albeit not necessarily with intention.Yet theseunintended learning experiences can result from interactions with not only instructors, but also with peers.Like interactions with authority figures, interactions amongst peers can promote moral and social ideals but also foster the exchange of information and are thus important sources of knowledge contributing to the success of the hidden curriculum. Although the hidden curriculum conveys a great deal of knowledge to its students, the inequality promoted through its disparities among classes and social statuses often invoke a negative connotation. For example, Pierre Bourdieu asserts that education related capital must be accessible to promote academic achievement. The effectiveness of schools becomes limited when these forms of capital are unequally distributed. Since the hidden curriculum is considered to be a form of education related capital, it promotes this ineffectiveness of schools as a result of its unequal distribution. As a means of social control, the hidden curriculum promotes the acceptance of a social destiny without promoting rational and reflective consideration.According to Elizabeth Vallance, the functions of hidden curriculum include "the inculcation of values, political socialization, training in obedience and docility, the perpetuation of traditional class structure functions that may be characterized generally as social control." Hidden curriculum can also be associated with the reinforcement of social inequality, as evidenced by the development of different relationships to capital based on the types of work and work related activities assigned to students varying by social class.Although the hidden curriculum has negative connotations, it is not inherently negative, and the tacit factors that are involved can potentially exert a positive developmental force on students. Some educational approaches, such as democratic education, actively seek to minimize, make explicit, and/ or reorient the hidden curriculum in such a way that it has a positive developmental impact on students. Similarly, in the fields of environmental education and education for sustainable development, there has been some advocacy for making school environments more natural and sustainable, such that the tacit developmental forces

that these physical factors exert on students can become positive factors in their development as environmental citizens. While studies on the hidden curriculum mostly focus on fundamental primary and secondary education, higher education also feels the effects of this latent knowledge. For example, gender biases become present in specific fields of study? the quality of and experiences associated with prior education become more significant? and class, gender, and race become more evident at higher levels of education.One additional aspect of hidden curriculum that plays a major part in the development of students and theirfates is tracking. This method of imposing educational and career paths upon students at young ages relieson various factors such as class and status to reinforce socioeconomic differences. Children tend to be placed on tracks guiding them towards socioeconomic occupations similar to that of their parents, without real considerations for their strengths and weaknesses. As students advance through the educational system, they follow along their tracks by completing the predetermined courses.Hidden curriculum refers to the unwritten, unofficial, and often unintended lessons, values, and perspectives that students learn in school. While the "formal" curriculum consists of the courses, lessons, and learning activities students participate in, as well as the knowledge and skills educators intentionally teach to students, the hidden curriculum consists of the unspoken or implicit academic, social, and cultural messages that are communicated to students while they are in school.The hidden curriculum concept is based on the recognition that students absorb lessons in school that may or may not be part of the formal course of study-for example, how they should interact with peers, teachers, and other adults? how they should perceive different races, groups, or classes of people? or what ideas and behaviors are considered acceptable or unacceptable. The hidden curriculum is described as "hidden" because it is usually unacknowledged or unexamined by students, educators, and the wider community. And because the values and lessons reinforced by the hidden curriculum are often the accepted status quo, it may be assumed that these "hidden" practices and messages don't need to change-even if they are contributing to undesirable behaviors and results, whether it's bullying, conflicts, or low graduation and college enrolment rates, for example. It should be noted that a hidden curriculum can reinforce the lessons of the formal curriculum, or it can contradict the formal curriculum, revealing hypocrisies or inconsistencies between a school's stated mission, values, and convictions and what students actually experience and learn while they are in school. For example, a school may publicly claim that it's committed to ensuring that all students succeed academically, but a review of its performance data may reveal significant racial or socioeconomic discrepancies when it

comes to test scores, graduation rates, and other measures of success. And because what is not taught in school can sometimes be as influential or formative as what is taught, the hidden curriculum also extends to subject areas, values, and messages that are omitted from the formal curriculum and ignored, overlooked, or disparaged by educators.

While the hidden curriculum in any given school encompasses an enormous variety of potential intellectual, social, cultural, and environmental factors-far too many to extensively catalogue here-the following examples will help to illustrate the concept and how it might play out in schools: Cultural expectations: The academic, social, and behaviouralexpectations established by schools and educators communicate messages to students. For example, one teacher may give tough assignments and expect all students to do well on those assignments, while another teacher may give comparatively easy assignments and habitually award all students passing grades even when their work quality is low. In the high expectations class, students may learn much more and experience a greater sense of accomplishment, whereas students in the low expectations class may do just enough work to get by and be comparatively uninterested in the lessons they are being taught. Similarly, schools may unconsciously hold students from different cultural backgrounds-for example, minorities, recently arrived immigrant students, or students with disabilities-to lower academic expectations, which may have unintended or negative effects on their academic achievement, educational aspirations, or feelings of self-worth. Cultural values: The values promoted by schools, educators, and peer groups, such as cliques, may also convey hidden messages. For example, some schools may expect and reward conformity while punishing nonconformity, whereas other schools might celebrate and even encourage nonconformity. In one school, students may learn that behaviors such as following the rules, acting in expected ways, and not questioning adults are rewarded, while in other schools students learn that personal expression, taking initiative, or questioning authority are valued and rewarded behaviors. Similarly, if biased or prejudicial behaviors and statements are tolerated in a school, students may embrace the values that are accepted or modelled-either explicitly or implicitly-by adults and other students. Cultural perspectives: How schools recognize, integrate, or honour diversity and multicultural perspectives may convey both intentional and unintended messages. For example, some schools may expect recently arrived immigrant studentsand their families to "assimilate" into American culture-for example, by requiring the students to speak English in school at all times or by not providing

translated informational materials or other specialized assistance. Other schools, however, may actively integrate or celebrate the multicultural diversity of the student body by inviting students and parents to share stories about their home country, for example, or by posting and publishing informational materials in multiple languages. Generally speaking, the concept of a hidden curriculum in schools has become more widely recognized, discussed, and addressed by school leaders and educators in recent decades. Ideas such as "white privilege, equity, and multicultural education to name just a few-have arguably led to greater tolerance, understanding, and even celebration of racial, cultural. physical, and cognitive differences in public schools. In addition, school communities educators, and students are more likely than in past decades to actively and openly reflect on or question their own assumptions, biases, and tendencies, either individually or as a part of a formal school policy, program, or instructional activity. For example, topics such a bullying and diversity are now regularly discussed in public schools, and academic lessons, assignments, readings, and materials are now more likely to include multicultural perspectives, topics, and examples. Political and social pressures, including factors such as the increased scrutiny that has resulted from online media and social networking, may also contribute to greater awareness of unintended lessons and messages in schools. There are, therefore, a host of obligations that the child is required to shoulder. Together they constitute the discipline of the school. It is through the practice of school discipline that we can inculcate the spirit of discipline in the child". Thehidden curriculum as a socialization of schooling can be identified by the social interactions within an environment. Thus, it is in process at all times, and serves totransmit tacit messages to students about values, attitudes and principles. Hidden curriculum can reveal through an evaluation of the environment and the unexpected, unintentional interactions between teachers and students which revealed critical pedagogy. Also, many of them claim that the demands of upper and middle class are dominant throughout schooling. Particularly, the concept of hegemony and resistance are significant in the evaluation of hidden curriculum.

1.6 Curriculum Planning, Implementation and Evalution. Role of Special Teachers of the Visually Impaired

1.6.1 Curriculum Planning

Curriculum planning is the decision- making process about the content and the

organization of learning for which the school is responsible. Different groups of people decide on the variety of topics and issues concerned with the educational needs of pupils. Building an effective Curriculum is a process developed to help schools and centres review and revise their curriculum structures. Involving the school communityBuilding curriculum is a collaborative process which can be used to involve and engage pupils, parents and other partners. Identifying your priorities forchangeStaff need to identify and examine together the challenges and opportunities posed by their own school or centre. Tools to support you in reviewing your curriculum structure, including a strategic curriculum planner. A resource to help primary schools evaluate and develop different aspects of their curriculum. A clear and concise 'toolkit' to help secondary schools evaluate their curriculum across the broad general education. Talking Heads implementingCurriculum for Excellence in the senior phase sevenhead teachers talk about building and developing the curriculum in secondary schools, while parents discuss how the results would affect their children. Putting the learner at the centre through consulting pupils on how learning should be planned. Schools share 'works in progress' illustrating how they are focusing on particular aspects of their curriculum design. The final step in the buildingcurriculum process is to create own curriculum plan. An outline of the framework's role as a technical document for curriculum planners. This template can be used to bring structure to curriculum planning. Materials to help schools and centres agree next steps as they begin to construct a strategic curriculum plan. Involving the school community identifying your priorities for change sharing practice curriculum planning. Religious observance is an essential part of the totality of the learning experience for every young person and supports whole school planning. Good curriculum planning in schools often requires overcoming many obstacles. With very few exceptions, even small scale curriculum planning requires that participants engage in extensive deliberations. Therefore, finding appropriate times for participants to meet is often crucial to the success of a project. Another difficulty is that participants may not be aware that curriculum planning rarely proceeds smoothly along the lines originally envisaged for it, arriving at the one inevitable proposal for curriculum change. In the process of curriculum planning, new ideas surface and new directions are explored. How a planned curriculum is implemented as the enacted curriculum in any school is a complex process that can vary enormously from school to school. The personnel of some schools may prefer to make few changes in the original plan (as in fidelity of use),

the personnel of other schools may choose to make many changes (as in mutual adaptation), or -as is often the case there may be considerable differences of opinion among the personnel of any school. The only certainty about curriculum implementation is that there is no one right way of going about it for all teachers in all schools.Curriculum planning can be done through three levels. These are as follows: the planning of policies, the planning of programs, and the planning of lessons. We will focus on how planning by teachers actually proceeds in individual schools, and in so doing, we examine in detail the contributions made to curriculum planning by people often referred to as "key stakeholders." Key stakeholders include teachers, principals, parents, students and external facilitators all the people who for personal or professional reasons ordinarily have the strongestinterests in planning. Either their lives are touched directly by the curriculum (as in the case of teachers, parents, and students), or their professional roles include some direct responsibility for the curriculum (as in the case of teachers, principals, and external facilitators). We willlook at what happens when a planned or written curriculum is enacted in a classroom. We will consider why the enacted curriculum may differ considerably from the planned curriculum and under what circumstances the differences that occur are desirable or undesirable. In addition we will critically review recent thinking on the process of curriculum implementation, describing both strategies and tactics that seem to work well and what about the process of implementation remains problematic and puzzling to researchers.

- Objectives: To differentiate among three levels at which curriculum planning occurs in schools:policy, programs and lessons.To reflect on the backgrounds, priorities, and skills ordinarily brought tocurriculum planning by key stakeholders, especially teachers, principals, parents,students and external facilitators.To become familiar with the major problems involved in curriculumimplementation.To understand the implications of the ideas of fidelity of curriculumimplementation and adaptation in curriculum implementation.To critically reflect on the basic ideas that underlies research on curriculumimplementation.To critically reflect on some common approaches that has been used in schools tosupport the process of curriculum implementation. The various players in the curriculum process are teachers, principals, parents, students and external facilitators as you look at the list of players in the curriculum process, you probably identify with many of these

roles. You wear many different hats in your professional lives. You are all students. Some of you have administrative duties while others of you will play that role sometime in the future. Many of you are parents. All of you are teachers. Some of you have worked as a consultant or have functioned as an external facilitator for a period of time in one educational setting or another. If there are any of these hats youhave not worn, you are well acquainted with people who do wear those hats.

- Problem to Solve: Marsh and Willis identify three levels of curriculum planning: the planning of policies, the planning of programs, and the planning of lessons. They also point out the role "key stakeholders" such as students, teachers, parents, principals and external facilitators play in the process of curriculum planning.The member of a curriculum planning/problem solving group two distinguished external facilitators have agreed to work with you in small groups. Each facilitator has a pressing problem your group needs to help solve. Elementary School who are wrestling with the challenges of program accountability asTeachers in Need of Assistance (TINA).
- Curriculum Process:Each external facilitator will "call" their respective group together by posting an initial message to the group. Email addresses are listed on the committee roster above. This initial posting should establish the setting for the problem.Each committee member should respond to their committee's curriculum problem from the perspective of their assigned role.Each committee member must weigh in on questions related to their issue as found on the description linked as well as any additional information provided by the curriculum facilitator.The deliberation activity of the committee will constitute the group discussion for the week minimum of three postings.By the end of the week each facilitator will post to the listserv the recommendations of their Curriculum Planning/Problem Solving Committee. These will be available for review by both curriculum groups.Any member of either curriculum group will then be welcome to comment on the outcome of each committee's curriculum work.

1.6.2 Implementation

After the preparation of learning materials or activities which all come under curriculum, the next step is the implementation of curriculum in the classroom. This is the stage of

actual teaching- learning or transaction of curriculum. Teachers, principals, supervisors and members of school management are given training in the proper implementation of curriculum. The following factors leading to the efficient implementation of the curriculum:

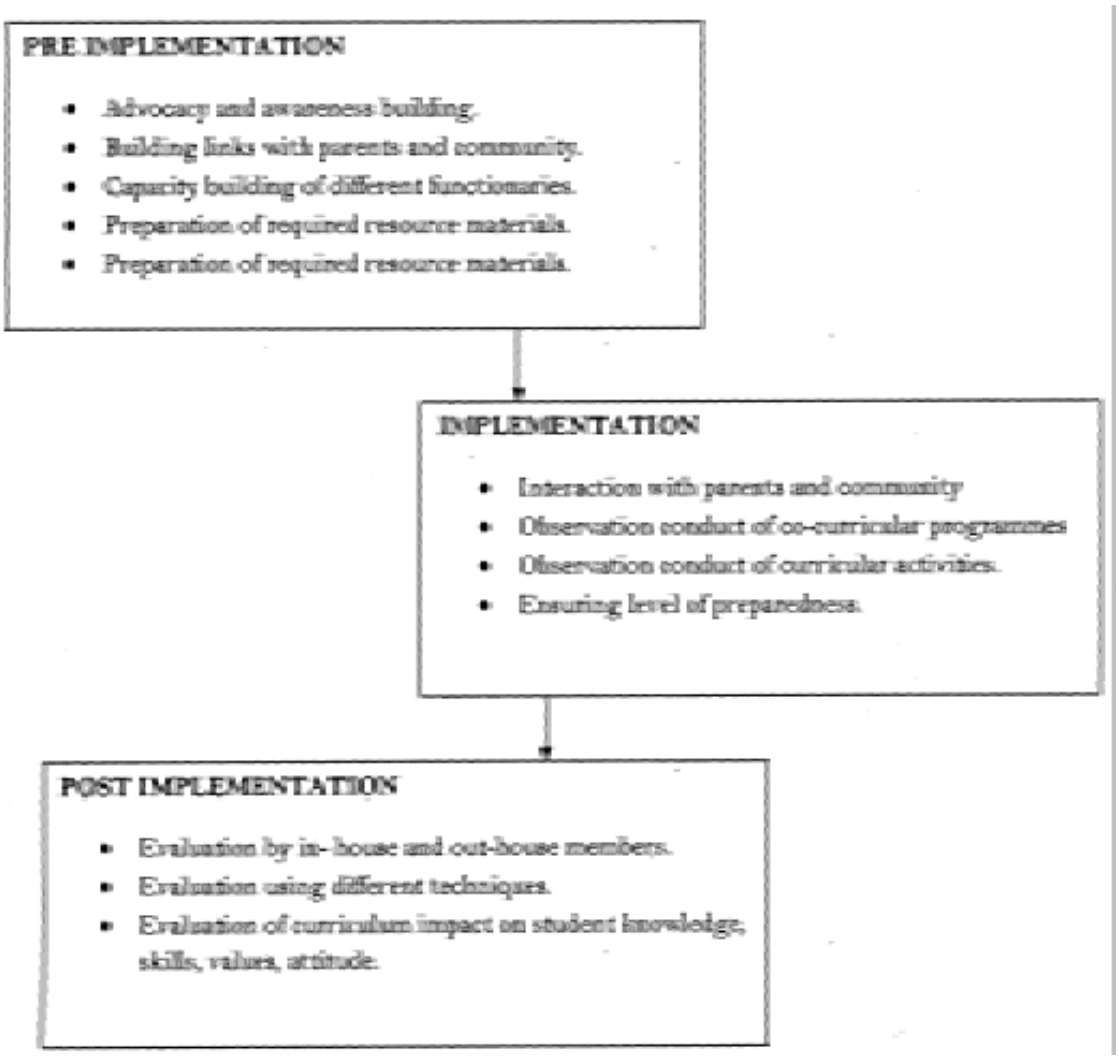
- Adequate preparation of the teachers by the boards and State Departments of Education for meeting the changed requirements of the new curriculum.
- Sufficient supply of the teaching aids and equipment needed for the implementation of the curriculum.
- Receptivity of the community to the new curriculum
- Adequate preparedness of the students to accept the new curriculum with its additional requirements of energy, money and time
- Adequate supervisory and guidance facilities for teachers needed for effective implementation of the curriculum.

The term "implementation" includes to activities, the first that relates to preparatory activities that need to be completed once curriculum has been developed and made public. The second relates to transaction .Implementation is that which works to relate the identification of those activities that need to be completed well before transaction this activities can be three categories:

1. Activities to be completed before implementation
2. Activities to be completed during implementation
3. Activities to be completed after implementation

The first to acitivites listed above are important as they influence curriculum transaction. The last one is important as it is key to curriculum review and revision. Thus a provision needs to be provided in curriculum planning that after development of curriculum, a comprehensive road map will be developed to ensure that all necessary preparatory activities are pre-planned. By way of illustration listed below some acitivites that must be completed before and after implementation face.

Road map for curriculum implementation



1.6.3 Evaluation

In relation to curriculum, evaluation is the process of making value judgements about the merit or worth of a part or the whole of a curriculum. The nature of a curriculum evaluation often depends on its audience and purpose. The potential audiences include: Policy makers and other stakeholders (administrators, teachers, students, parents, communities) - to inform future action. (Donors - to attract funding or to report on the utilization of funds. Researchers - for international comparison and identification of effective practices.) Evaluation of curricula is typically concerned with the: Impact of

the curriculum: on individual students, their needs, their level of engagement and their performance? On society, including the appropriateness of values communicated and attitudes fostered, and the level of public satisfaction?on the economy including labour markets as an indicator of economic development? Process through which the curriculum was developed? Content and design of the curriculum compared with: recent social, technological, economic or scientific changes? Recent advances in educational research and educational paradigms? Possible future directions for curriculum change. So it may be say that curriculum evaluation refers to evaluation of the different components of curriculum.

Meaning of Curriculum Evaluation

Evaluation essentially is the provision of information for the sake of facilitating decision making at various stages of curriculum development. This information may pertain to the program as a complete entity or only to some of its components. Evaluation also implies the selection of criteria, collection and analysis of data. It includes obtaining information for use in judging the worth of a programme and procedure. It is a comprehensive term and transcends standardized tests covering all means of ascertaining the results of construction. Evaluation of curriculum is an integral and essential part of the whole process of curriculum development. It is a continuous activity and not a "tail-end-process". Evaluation and planning are complementary processes which occur almost simultaneously and continuously. Planning is made on the basis of evaluation and vice versa. However, as a separate state evaluation has its own entity.

The importance of curriculum evaluation is to determine the value of the curriculum itself is the curriculum appropriate for the particular group of students with whom it is being used? Are the instructional methods selected, the best choices in the light of the objectives sought? Is the content thebest that could be selected? Are the materials recommended for instructional purpose appropriate and the best available for the purpose envisaged?

- Objectives of Curriculum Evaluation

1. To determine the outcomes of a programme.
2. To help in deciding whether to accept or reject a programme.
3. To ascertain the need for the revision of the course content.

4. To help in future development of the curriculum material for continuous improvement.
5. To improve methods of teaching and instructional techniques.

- Types of Curriculum Evaluation

According to Scriven, following are the 3 main types

1. Formative Evaluation. It occurs during the course of curriculum development. Its purpose is to contribute to the improvement of the educational programme. The merits of a programme are evaluated during the process of its development. The evaluation results provide information to the programme developers and enable them to correct flaws detected in the programme.
2. Summative Evaluation. In summative evaluation, the final effects of a curriculum are evaluated on the basis of its stated objectives. It takes place after the curriculum has been fully developed and put into operations.
3. Diagnostic Evaluation. Diagnostic evaluation is directed towards two purposes either for placement of students properly at the outset of an instructional level (such as secondary school), or to discover the underlying cause of deviancies in student learning in any field of study.

1.6.4 Role of Special Teachers of the Visually Impaired

A Teacher of Students with Visual Impairments (also called a Teacher of the Visually Impaired, a vision specialist, VI teacher, vision itinerant teacher, etc.) is typically a licensed special education teacher who has received certification and specialized training, in meeting the educational needs of students who are blind or have visual impairments ages birth through 21 (states vary on the criteria for certification as a Teacher of Students with Visual Impairments). This is an instructional position, as opposed to a related service or vision therapy. The role of the Teacher of Students with Visual Impairments (TVI) is to provide direct and/or consultative special education services specific to vision loss. The TVI provides support to students, teachers, and parents and acts as a liaison with community services. The TVI works with the educational team by advising the team about ways of enhancing the student's learning by adapting activities and materials to the student's abilities. Although the TVI is not an academic tutor, they may spend some time ensuring that the student understands concepts introduced in academic

courses. The TVI may help choose appropriate educational materials, and maybrainstorm with teachers and therapists about effective adaptations. Byworking together, classroom teachers, therapists, and the TVI can create aclassroom environment that encourages independence, academic success,and prepare the student to be the most productive member of society theycan be.The teacher of students with visual impairments is the central figure on the educational team for a visual impairment. This is the professional who has expertise in how visual impairment affect child's development and learning, as well as the strategies and tools that can help child learn about the world, perform everyday activities, and participate in the general curriculum and other activities in school. Therefore, child is likely to be working with the teacher of students with visual impairments on a day to day basis. He or she will probably serve as the coordinator of the educational team and as a resource for the other team members, including their parents. It may sometimes hear this teacher referred to as a "vision teacher" or by the abbreviation "TVI." The specific responsibilities of the teacher of students with visual impairments may vary, depending on child's age and needs, the goals his educational team sets for him, the type of educational program child participates in, and the policies of the particular school district. The role of the teacher of students with visual impairment may include some or all the following: teaching the specific skillsthat child needs to learn because of his visual impairment. Generally these are adapted ways of doing everyday activities and methods of participating in the school curriculum, such as reading and writing in braille, using a low vision device, or independent living skills. These skills are often known as the expanded core curriculum.

Conducting various assessments of the child to determine his abilities and needs working with other family members in various ways, such as helping to learn skills which need to teach such as helping them to learn skills that need to teach the child or suggesting ways to arrange their home or do household chores that will make it easier for the child to participate in family life making referrals for additional services which child may need, such as for orientation and mobility (O&M) instruction or a clinical low vision evaluation from a low vision specialist meeting with family members, the child's regular education teacher, and other members of the educational team to discuss his progress and make suggestions for strategies to make his school work accessible and to include him to the greatest extent possible in all school, classroom, and extracurricular activities preparing or obtaining learning materials, textbooks, and examinations in the appropriate accessible format for the child (such as braille, large print, audio, or electronic format) analysing the classroom and other environments for access and safety related to a student's

visual impairment or blindness, and advising other members of the team about how best to organize the classroom and materials providing consultation and training for teachers, Para educators, and other school personnel on effective strategies for teaching students with visual impairments directing the Para educator, if one has been assigned to the child or his class, in providing support to the child. Teachers of students with visual impairments often work as "itinerant" teachers, which mean that they travel from school to school within a particular area or school district to work with the students to whom they've been assigned. At the school, there are different ways in which the teacher of students with visual impairments might work with the child. For example, they may work together in the child's regular classroom to help with the on-going lesson, in an empty classroom, or in a designated resource room, alone or with a group of students. The teacher of students with visual impairments might also meet with the child before or after school. Or, he or she might only observe the child occasionally in order to consult with the regular education teacher about your child's progress. How often they meet depends on the services designated by your child's Individualized Education Program (IEP) (or Individualized Family Service Plan (IFSP) if he is younger than 3 years old). Because the teacher of students with visual impairments has an on-going role with a child in teaching the expanded core curriculum, it's important to understand that he or she is not responsible for teaching the general education curriculum that all students learn in school. That role belongs to the classroom teacher. The responsibilities of the classroom teacher with regard to the child might be summarized as follows: teaching academic and social curricula, assigning grades, and maintaining discipline for all students in the class, including the child who is visually impaired providing textbooks and instructional materials to the teacher of visually impaired students in a timely manner so that the material can be prepared in alternate formats that the child needs communicating and meeting regularly with the teacher of visually impaired students to discuss the child's progress and plans for meeting his future educational and social needs creating a classroom climate that is comfortable for all students The teacher of students with visual impairments' contribution to the general education classroom is to consult with the classroom teacher on ways of making the general curriculum accessible to the child be responsible for preparing classroom materials in formats that are accessible to the child. The teacher of students with visual impairments may also teach some of the concepts that thechild needs to learn in preparation for a particular lesson. For example, to prepare the child for a science lesson about eclipses, the teacher of students with visual impairments may use hands on materials to teach concepts about

the sun, moon, and earth and the rotation and revolution of the planets that might be taught to the rest of the class using pictures. Since both the teacher of students with visual impairments and the regular classroom teacher play such a central role in your child's education, it's important for these two professionals to remain in close contact about the best ways of meeting child's needs.

The Teacher of Students with Visual Impairments (TVI) has the following roles and responsibilities:

- Has primary responsibility for specialized instruction and services required meeting the unique educational needs of her visually impaired students?
- Possesses the skills and abilities necessary to provide and coordinate this specialized instruction.
- Assists the student, parents, special and regular education personnel, and the student's sighted peers in understanding the unique educational needs and learning characteristics of visually impaired students, becoming aware of services and support available from local programs for visually impaired students, acquiring information regarding local, state, and national resources for the education of visually impaired students, and interpreting the visually impaired student's specific eye condition, the educational implications of the visual impairment, and the results of functional vision and learning media assessments.
- Consults regularly with the classroom teacher, other regular and special education personnel, parents, and others to coordinate programs and services for the visually impaired student.
- Assists the site administrator and teachers in making environmental adjustments for the student in the school.
- Shares responsibility with classroom teachers in the identification of instructional areas in which the student requires assistance.
- Assures that large-type or braille texts, supplementary materials, educational, aids, and equipment needed by the visually impaired student, and the classroom teacher, are provided in a timely manner to ensure the student's maximum participation in all classroom activities (appropriate educational materials may be prepared or adapted by the VI teacher, or they may be obtained from educational, clerical, or transcribe services.)

- Provides instruction in the development and maintenance of skills to meet the student's unique educational needs in the following areas, as indicated in the IEP:

✓ low vision & visual efficiency skills,

✓ concept development & academic skills,

✓ daily living skills,

✓ career & vocational education skills,

✓ communication skills (these skills include braille reading and writing as appropriate),

✓ Social/emotional skills and abilities, & sensory motor skills.

✓ Prepares sequential and meaningful instruction geared to the student's assessed needs, IEP goals and objectives, functioning, and motivational levels. This instruction should be reflected in weekly or monthly lesson plans, as appropriate.

✓ Provides assistance to the classroom teacher in academic subjects and activities of the classroom that, as a direct result of the student's visual impairment, require adaptation for the student.

- Provides initial and on-going assessment: consults with assessment team to determine appropriate testing materials and modifications needed, assists with assessments when needed, interprets assessment results when needed.
- Conducts functional vision/learning media assessments and produces written reports.
- Attends ARD and IEP meetings for students with visual impairments.
- Schedules time efficiently for assessment, instruction, planning, preparation of materials, travel, and conferences with relevant school and other key individuals.
- Maintains on-going contact with parents to assist them in the development of a realistic understanding of their child's abilities, progress, and future goals.
- Provides in-service training programs for school personnel and students and education for parents regarding the needs of visually impaired students and adaptations, programs, and services for these students.
- Makes available pamphlets, films, and other public information materials that may be useful in developing realistic and unprejudiced attitudes toward visually impaired students.

- Coordinates with other personnel, such as transcribes, readers, counsellors, O&M specialists, career/vocational education staff, and rehabilitation counsellors.
- Maintains a current reference library of professional materials and resources.
- Acquires information and training about current research, development, and technology.
- The Classroom Teacher (regular, special class, or resource specialist has the following roles and responsibilities:
- Provides instruction in appropriate academic and non-academic content areas to the visually impaired student in the classroom.
- Works cooperatively with the teacher of students with visual impairments to identify the student's areas of educational need, including unique education needs, coordinate instruction and services to meet these needs, provide, in a timely manner, classroom materials that need to be reproduced in another medium, determine mutually convenient times during the school day for scheduling the teacher of students with visual impairments to work with the student, modify classroom procedures and environment to meet the specific needs of the visually impaired student for participation in classroom activities, and exchange information concerning the visually impaired student with parents and other individuals on a regular basis.

The Orientation and Mobility Specialist has the following roles and responsibilities

- Instructs the visually impaired student in the development of skills and knowledge that enables him or her to travel independently, based on assessed needs and ability.
- Teaches the visually impaired student to travel with proficiency, safety, and confidence in familiar and unfamiliar environments.
- Consults regularly with sighted peers, parents, classroom teachers, physical education teachers, and/or other special education personnel to assist in home and classroom environmental modifications, adaptations, and considerations and to ensure reinforcement of appropriate O&M skills that will encourage the visually impaired student to travel independently in these settings.
- Works with the teacher of students with visual impairments to conduct the functional vision assessment as it relates to independent travel.
- Conducts assessments that focus on both long and short-term needs of the student.

- Includes in the assessment report the needs and strengths of the student and an estimate of the length and frequency of service necessary to meet identified needs.
- Prepares sequential and meaningful instruction geared to the student's assessed needs, IEP goals and objectives, functioning, and motivational levels. This instruction should be reflected in weekly or monthly lesson plans, as appropriate.
- Prepares and uses equipment and materials, for example, tactile maps, models, distance low vision devices, and long canes, for the development of O&M skills.
- Transports the student with parent permission to various community locations, as necessary, to provide meaningful instruction in realistic learning environments.
- Is responsible for the student's safety at all times and in all teaching environments while fostering maximum independence.
- Evaluates the student's progress on an ongoing basis with progress reports each 6/9 weeks as required.
- Keeps progress notes on each student.
- Participates in necessary parent conferences and meetings.
- Provides in-service training to regular and special education personnel, sighted peers, and parents concerning the O&M needs of the student and appropriate methods and procedures for interacting with the visually impaired person that will foster maximum independence and safety.
- Provide O&M instruction, where appropriate, in a number of specific areas:

✓ body imagery,

✓ laterality,

✓ environmental concepts,

✓ gross and fine motor skills related to independent travel,

✓ sensory awareness, stimulation, and training,

✓ spatial concepts,

✓ compass direction concepts,

✓ sighted guide procedures

✓ basic protective and information-gathering techniques

- ✓ orientation skills
- ✓ map skills
- ✓ cane skills,
- ✓ use of residual vision
- ✓ low vision devices related to travel skills
- ✓ urban, suburban, and rural travel,
- ✓ travel in business districts,
- ✓ procedures for crossing streets including how to deal with traffic control signals,
- ✓ use of public transportation systems,
- ✓ procedures for use of the telephone for information gathering and for emergencies,
- ✓ procedures for interacting with the public
- ✓ knowledge and application of community address systems,
- ✓ procedures for travel and independent functioning in places of public accommodation,
- ✓ skills of daily living,
- ✓ sensory/motor skills in coordination with the physical or occupational therapist and teacher of
- ✓ students with visual impairments, and
- ✓ Skills for independent living.

What to expect from the Teacher of Students with VisualImpairments:

- Interpret Medical Reports

As part of determining a student's eligibility and the impact of the visual impairment, the Teacher of Students with Visual Impairments will need to have the skills and training to read and interpret medical eye reports. The TVI will determine the implicationsthereof for educational and home environments.

- Conduct Specialized Assessments and Make Recommendations

The TVI will conduct Functional Vision Assessmentsto determine how much usable vision a student has toperform visual tasks. This assessment is initially conducted to

determine theneed for services from a teacher of students with visual impairments and todetermine appropriate goals and level of supportneeded. This evaluation is updated at a minimum, every three years todetermine on-going eligibility and need for school based vision services. The TVI may also recommend appropriate specialized evaluations as needed, particularly in low vision, orientation and mobility, and adaptive physical education. This evaluation is conducted even if the student has no usable vision.

- Actively Participate in the Individualized Education Program (IEP)

The TVI will need to communicate with the team members on how the student's performance may a?ect their school performance by providing information on the student's learning style, utilization of visual information, and other strengths unique to individual students who are visually impaired. The TVI will identify any goals and objectives in specialized areas related to the visual needs of the student. The TVI will also identify instructional methods and materials for meeting goals and objectives. Finally, the TVI will recommend appropriate service delivery options, including class placement, physical education, related services, specializedequipment (/assistive-technology.html), adaptations in testing procedures, and time frames for implementation. Consideration will be taken as to the current and future reading and writing media for the student with a visual impairment based on reading distance, reading rates and accuracy, portability of reading skills, visual fatigue, and tactual sensitivity.

- Recommend Educational & Instructional Strategies

The TVI will assist in determining and procuring classroom equipment and materials necessary for the student with visual impairments to learn (brailler, low vision devices, assistive technology, computer) including ensuring necessary room modifications and lighting changes. The TVI will provide the classroom teacher with information regarding the specialized strategies needed to teach a student who is blind or visually impaired. The TVI will also assist in obtaining specialized materials, including procuring materials from the American Printing House for the Blind (APH), providing braille, recorded/ enlarged materials, and other needed materials.

- On-going Observations

The TVI conducts on-going observations of the student in a variety of familiar situations performing routine tasks or activities to assess how the student is using their vision. In doing this, the TVI can and out what motivates the student to look. The TVI will then use objects and activities similar to those that have been motivating in the past. It is also

beneficial to get an understanding of how the student spends their time. What does the student do? How does the student play and with what? Where do they go? Who do they play or interact with? This is a process to identify the student's existing (and desired) activity setting. These observations will assist the TVI in ensuring the goals and accommodations as well as level of service in ensuring the goals and accommodations as well as level of service continue to be appropriate.

- Use of Natural Environments to Address Goals

Teaching techniques to enhance vision should not be taught in isolation. It is important to look at what the needs and activities of the student are in school and in their everyday life that are a?acted by their visual performance, and teach to those tasks. If the family/ teachers are interested in obtaining other objects for the student to play with, then the TVI can assist the family and/or teacher in obtaining such items. The responsibility of the TVI is to support the student with what he/she has everyday access to, where he/she is, and sharing information that matches the student's/families/classroom priorities (watching television, playing on the computer, playing with toys or games). These activities provide multiple learning opportunities. It is easy to take in a bag of toys, but more challenging and appropriate to explore existing toys that the student will have daily access to, for continued exposure/practice. Learning takes placeat all times, so it is best to use what is available/accessible to give the student more practice in using existing skills and developing new abilities. "Toy bag treatment sessions" typically do not promote functional skill use and learning in natural settings. Some skills are best addressed outside of the regular classroom to avoid visual and auditory distractions. The goal should be to learn the skills and then begin to transfer those skills during classroom activities.

- Communication with Caregivers and Classroom Teachers

The TVI will want to have on-going communication with the caregivers and classroom teachers in order to try to develop a better understanding of the student. An itinerant teacher will not have the same rapport with the student as they do not spend as much time with them. For that reason, it is helpful to talk with parents and classroom teachers who do have this rapport about how they feel the student is doing, if they are addressing the goals and how the student is functioning. The TVI may ask to observe the teacher working with the student to observe how the student is functioning within the normal routine and with familiar adults.

- Direct Instruction in the Expanded Core Curriculum

The TVI will determine which areas of the Expanded Core Curriculum (ECC), a unique curriculum that addresses needs a student who is blind or visually impaired may have that are not addressed within the standard curriculum. Although not all students will have needs in all areas of the ECC, the areas of the ECC include: Compensatory, Functional and Communication Skills;Sensory Efficiency; Orientation & Mobility; Social; Independent Living;Recreation & Leisure; Use of Technology; Career & vocational; and Self Determination.

1.7 Core Curriculum and Expanded Core Curriculum- Meaning, Need and Components

1.7.1 meaning of core curriculum:

The core curriculum relies on structuring. It attempts to develop integration to serve the needs of students and to promote active learning and significant relationship between life and learning. Organization of curriculum is based on different point of views. Many educationist have considered the curriculum and its content in different manner, some considered psychological aspects and others have taken philosophical dimensions. There can be some components which may be included and there are others which need not be included in the curriculum. A student can choose the components as per their requirements. Still there are some components which are essential for every student irrespective of their specific requirements. These essential components are termed as core curriculum.

Educators define 'core curriculum' as knowledge and skills expected to be learned by a student by high school graduation. Generally, the core curriculum consists of knowledge and skills related to academic subjects. Mastery of the core curriculum is what both parents and teachers stress as essential for academic demands of the core curriculum.

1.7.2 need of core curriculum:

Generally many words like fixed, essential, centered etc. are being used synonymously for core which means compulsory. The term 'core' refers to the educational concept, which was used in 1940's for the first time. The intention of this concept is to make the component of curriculum more meaningful to all students. According to Oliver 1965, the core concept has two basic components: time and philosophy. Time is usually

administered through a block time concept. For example, two or more concepts are joined together in order to study a wide range of related topics. Whereas the philosophy of 'core' involves the breaking down the strict boundaries between two difference concepts. Manning and Oliver have mentioned that students may study a topic from literacy, historical, mathematical, educational, sociological, psychological and artistic, viewpoints concurrently rather than study them in an isolated manner. But according to Dewey's philosophy of experimentalism is the basis for the core curriculum. Dewey viewed learning as continuous reconstruction of experiences and problem solving as an important part of learning. Cultural facts have contribution towards the nature of core proposals. On the other hand according to cognitive theories of learning dynamic and organic process are the components of core curriculum.

The core curriculum's primary focus is on academic content. In any educational setup the core curriculum is deemed central and usually mandatory for all students of a school system. According to the report on the core curriculum the core curriculum referred to intellectual experiences and skills that are required for all students. Educationists have defined core curriculum as curriculum is which a few subjects are essential and others are elective. The core subjects have to be studied by each student whereas elective subjects can be opted on the basis of individual interest and abilities through which child can get the experiences of the problems related to self and society and thus to improve his future life.The main purpose of core curriculum is to develop a human being and human society as well.

So the needs of core curriculum are as follows-

- Learning experience and process from the backbone of core, not mastery of factual knowledge subject serves as a mean or tool for engaging common social and personal needs, not as an end in itself.
- Core curriculum emphasizes problem solving by the group across fields and discipline textbooks and teachers do not control the agenda.
- More time is required for core curriculum than the standard framework.
- Core curriculum becomes the organizing scheme for the entire school experiences, non core curriculum are activities, supplement core curriculum activities.
- Teachers guide students inside and outside the classroom, option, working with the same pupils for few years.

- The basic needs and learning experiences of student take precedence over subject matter. The basic needs can be addressed in various manners. The learning experiences must engage the students to move forward towards freedom held out by liberal education.
- The contents in core curriculum integrated through various disciplines, themes, content, skills, ways of knowing, modes of teaching-learning process and combination of all these. In other words, integration in core curriculum is basically a cross-disciplinary approach.
- The contents of core curriculum emphasis on problem solving and discussion. In core curriculum teacher act as integrators, agenda, settlers, modules of interpretive discovers, partners in conversation and mentors rather than as authoritative distributors of knowledge.
- In core curriculum learning is not restricted to the walls of classrooms. Most of the components of core curriculum include the informal activities outside the classroom. For example common meals at mess, lectures, films, field trips, etc. in core curriculum one to one instruction is possible even out- side of the classroom.
- In core curriculum the contents can be provided to the students through original to be the students through original materials like film, art, music, drama, or any other original source it is not necessary to use book in curriculum transaction through core curriculum.
- Subject matter is considered as crucial as they are applied to original sources core curriculum is also able to pressure or interpret the knowledge.
- The contents of core curriculum have a common benefit of the students. It is the most essential characteristic of which state its essentiality to all beneficiaries. The core curriculum also involves a special programme for faculty development.
- Core curriculum is flexible in nature. There is provision of including the specific needs and interest of the students.
- All activities of core curriculum is designed and prepared by the collective efforts of teacher and the students as well. It is common belief that through such step the students can be well versed with every step of core curriculum. A teacher can play a crucial role as a specialist and leader of a group.

- The areas of core curriculum are essential for all students. Core curriculum is designed through equal experiences. It is believed about these experiences that these are essential for every segment of society and its members irrespective of their ability, social status and vocational plans.

1.7.3 Components of Core Curriculum

Components of core curriculum depend on various objectives. These are as follows-

- **Critical Thinking Skills -** to include creative thinking, innovation, inquiry, and analysis, evaluation andsynthesis of information.
- **Communication Skills -** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- **Empirical and Quantitative Skills -** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- **Teamwork -** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
- **Personal Responsibility -** to include the ability to connect choices, actions and consequences to ethical decision-making
- **Social Responsibility:** to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

By the use of these objectives the core curriculum follows various components, which are very helpful for making a person being a human. Here the components of core curriculum are discuss underline-

1. **Communication**

Courses in this category help in understanding, and building the skills needed to communicate persuasively. Course involve the command of oral, aural, written, and visual literacy skills that enable people to exchange messages appropriate to the subject, occasion, and audience Fundamental to academic and professional success is the ability to communicate ideas clearly, accurately, and in an engaging way. The Core writing component enhances students' capacity to organize, to analyse, to interpret, and to argue persuasively and ethically. The writing component enables students to produce work of increasing complexity for multiple audiences. Courses included in the communication component of the core curriculum are designed to enable the student to communicate

effectively in a style appropriate to the subject, occasion, and audience.Courses listed in this area of the core must be designed to help students develop the Student Competencies listed below.

Student Competencies

1. To understand and demonstrate effective written, oral and visual communication processes through invention, organization, drafting, revision, editing, and presentation.
2. To choose a method of communication appropriate to a specified purpose and audience.
3. To weigh alternative viewpoints and work collaboratively with others in producing or analysing effective communication messages.
4. To organize ideas logically around a central theme in paragraphs, sections, and entire works using appropriate grammar, syntax, punctuation, and spelling.
5. To develop claims or hypotheses through analysis, drawing appropriate conclusions, and using well-reasoned arguments and supporting evidence while identifying logical flaws and fallacies and weighing alternative viewpoints.
6. To describe the ethical consequences and implications of one's messages on audiences.
7. Students will be able to think, read, and write analytically, critically, and creatively.
8. They will be able to express ideas coherently, to work with a variety of research methods, and to construct effective arguments using appropriate evidence.

2. Language, Philosophy and Culture - Courses in this category focus on how ideas, values, beliefs, and other aspects of culture express and affect human experience. Courses involve the exploration of ideas that foster aesthetic and intellectual creation in order to understand the human condition across cultures

2.1 Modern and Classical Languages

The Modern and Classical Language component provides students with a level of proficiency in a second language sufficient to insure successful communication in the cultural environment of the chosen language. Integral to the acquisition of communicative competency is the development of cultural sensitivity to different patterns of thought

and values. Study of a second language enhances analytical skills, broadens one's vision of the global dimensions of knowledge, and helps foster respect for the value and diversity of human life. The language component can enhance the major field of study and cross disciplinary inquiry by providing access to information and ideas otherwise unavailable.

Student Competencies

1. Students choosing a modern language will demonstrate the ability to handle communicative tasks and to express personal meaning in the second language at a level equivalent to "Intermediate" as described in the language proficiency guidelines of the Council of Teachers of Foreign Language.
2. Students will also show an understanding and an awareness of cultural differences. Students opting for a classical language will demonstrate an ability to understand texts of intermediate difficulty in the chosen language.

2.2 Philosophy

A key element in Catholic and Jesuit education, philosophy provides a rationaland critical way of examining fundamental, enduring questions about the human condition. These questions include the relationship of self and society and the foundations of sciences, aesthetics, and religion, especially the existence and nature of the divine. Philosophy assists students to examine critically their ethical convictions by exploring the best rational justifications for ethics given in Western philosophy. Thus, Core philosophy courses prepare students to approach critically and rationally the problems of the self, society, God, and ethical life.

Student Competencies

1.Students will acquire a basic understanding of some of the foundational texts in philosophical thought. 2.They should be able to think independently and creatively about questions relating to humanity, to evaluate and to formulate philosophical arguments, and to understand the possible rational justifications for their beliefs.

2.3 Cultural Diversity

The Core Curriculum Cultural Diversity component is addressed by two courses: one in "Cultural Diversity in the country" and one in "Global Citizenship." For the Purpose and Student Outcomes of each of these courses, please consult the following :

1.Theological Studies

Growth in theological understanding is rooted in the mission of Saint Louis University as a Catholic, Jesuit institution. The Theological Studies component promotes this growth in three phases: (a)Discovery: Students are introduced to the Hebrew and Christian scriptures from historical and literary perspectives, to fundamental theological concepts, and to the early history of Christianity. (b) Insight: Phase 2 focuses on comparative theology (the search for truth and meaning in the major world religions) and broadens understanding of universal as well as specific theological concepts. (c) Integration: Students learn to apply essential religious and theological insights to specific social and cultural contexts, moral choices, professional and personal lifestyles, and global realities. Courses included in the humanities component of the core curriculum are designed to expand students' knowledge and understanding of the human condition and human cultures through the critical study of works of human imagination and thought. Courses listed in this area of the core must be designed to help students develop the following Student Competencies.

Student Competencies

1. To critically analyse and interpret works and their impact on human life and society in a discipline such as literature.
2. To articulate an informed response to those works that demonstrates an awareness and appreciation of their content, scope, and variety
3. To describe the role of those works as expressions of individual or shared human values within a historical and social context.
4. Students will acquire the capacity for critical, informed, and creative theological inquiry as a means of deepening their understanding of theological concepts and the human condition.
5. Their study of theology will lead them to examine their own religious experience and to apply theological thought to their personal and professional lives in the service of humanity.

2. World History

In an increasingly interconnected society, it is important for students to understand the range of human history in all areas of the world. Courses in this category focus on the consideration of past events and ideas relative to the States, with the option of including History for a portion of this component area. Courses involve the interaction among

individuals, communities, states, and nation, and the world, considering how these interactions have contributed to the development of the United States and its global role The History component of the Core provides students with an introduction to the political, religious, cultural, economic, and social forces that have shaped the modern world from the origins of humanity to the present. These classes help students develop an understanding of historical causation and expose them to the accomplishments of both Western and non- Western civilizations. By encouraging better appreciation of the factors that created our present society, the History component of the Core enables students to be more effective world citizens.Courses included in the history category focus on the consideration of past events and ideas relative to the country's, with the option of including history for a portion of this component area. These courses involve the study of the interaction among individuals, communities, states, the nation, and the world, considering how these interactions have contributed to the development of the country and its global role. Courses listed in this area of the core must be designed to help students develop theStudent Competencies listed below.

Student Competencies

1. To evaluate sources, methodologies, and interpretive strategies historians use to investigate and narrate the past.
2. To articulate and analyse how institutions, cultures, concepts, or relationships change over time.
3. To interpret events, texts, and arguments within their political, economic, cultural, and/or social historical context and as expressions of individual beliefs, values, and decisions.
4. Students will develop an understanding of the historical factors that created and continue to shape the modern world.
5. They will also come to appreciate the world's many diverse cultures and important contributions they have made. Students should be able to understand how seemingly discrete events are linked over time, and they should learn to read carefully and analyse critically.

3. Literature

The study of literature is a key element in understanding the imagination and the different ways reality can be perceived. The literature component of the Core promotes an

appreciation of the text as a creative act and an expression of the human search for meaning. Students are introduced to various methods of interpreting texts that can also enhance inquiry in other fields.

Student Competencies

1. Students will attain an understanding of the power of language to shape ideas, values, and the ways men and women are defined.
2. Using critical methods and theories of interpretation, students will be able to analyse and evaluate different cultural, ethical, and aesthetic dimensions of writing and literature.

6. Fine Arts

The arts reflect and engage the world around us. They feed the imagination and provide a unique opportunity to study humanity, aesthetics, and cultural values. Courses in this category focus on the appreciation and analysis of creative artifacts and works of the human imagination. Courses involve the synthesis and interpretation of artistic expression and enable critical, creative, and innovative communication about works of art. Through courses in art history, studio art, music, or theater, students learn to observe critically, to think creatively, and to appreciate different modes of self-expression and cultural expression. Courses included in the visual & performing arts component of the core curriculum are designed to help students develop engagement with and aesthetic appreciation of the visual and performing arts; understand works of visual and performing art in their historical, cultural, and social contexts; and/or apply themselves to creative process or interpretive performance and experience the physical and intellectual demands required of the visual or performing artist. All courses in the visual and performing arts area of the core curriculum must be designed to help students develop all of the following Student Competencies. Only courses of three hours or more may be included.

Student Competencies

1. To demonstrate awareness of the range of works in some area of the visual or performing arts, as well as articulate an aesthetic appreciation of and informed critical response to such works through inquiry, and analysis, evaluation and synthesis of information.
2. To convey interpretative and/or creative responses to artworks by means of effective development, interpretation and expression of ideas through written, oral and visual communication.

3. To evaluate different points of view and to work effectively with others to support a shared interpretative or creative purpose or goal.
4. To analyse how the works being studied and/or created are expressions of individual or broader human values within a historical, cultural or social context, as well as the importance of visual or performing arts in defining or exploring a culture or community.
5. Students will be able to identify creative expression and to recognizehow art reflects and challenges cultural values.
6. They will demonstrate the ability to evaluate artistic accomplishments.

5. Mathematics

Courses in this category focus on quantitative literacy in logic, patterns, and relationships. Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience. The mathematics Core component promotes proficiency in methods of thought that are inherent to mathematics. These methods include pattern recognition, symbolic abstraction and manipulation, logical and critical analysis, and synthesis. This component helps students develop an appreciation for mathematical modes of thought, a notion of what mathematical skills entail, the development of some of these skills, and a sense of how mathematical methods can be brought to bear in other fields of study. Courses included in the mathematics component of the core curriculum are designed to enable the student to competently use mathematical strategies to understand and solve problems. Courses listed in this area of the core must be designed to help students develop the Student Competencies listed below.

Student Competencies

1. To accurately manipulate and analyse numerical data using mathematical strategies.
2. To apply appropriate mathematical strategies to solve a given problem and assess the reasonableness of the results.
3. To effectively express and communicate the results of problem-solving using appropriate mathematical language and symbolism.
4. Students will begin to achieve an understanding of mathematics not simply as a collection of memorized formulas and techniques, but also as a logically developed structure whose abstract methods of problem solving have real-life applications.

5. Students will be able to solve mathematical problems and comprehend the logic underlying the solutions

8. Physical/ natural and Life/ social Sciences - Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

6. 1 Natural Sciences

Scientific inquiry provides a unique way of exploring, knowing, and creating. Courses in science encourage students to think critically about how they can better understand the world around them. These courses help students attain conceptual tools and methodologies to gather, analyse, interpret, understand, and present an array of data. Through the science component of the Core, students develop an understanding of how science benefits and impacts society, empowering them to become active participants in an increasingly complex world. The Natural Science & Technology component of the core curriculum serves to give students an appreciation of the current state of knowledge in two or more areas of natural science and technology. Courses included in this component of the core curriculum are designed to help students understand the methods, approaches and theories that scientists use to answer questions about the natural world. A total of nine hours is required to complete the core Natural Science & Technology component, including a depth requirement and a breadth requirement. The depth requirement, consisting of six hours of coursework in a single field of study, is intended to introduce students to the most fundamental and important concepts in the natural sciences. The breadth requirement consists of three additional hours of coursework in a second field of study. To satisfy the depth requirement, students must select from the recommended sets of courses listed in the catalogue in the Natural Science & Technology Part I core list. The course selected to satisfy the breadth requirement may come from either the Natural Science & Technology Part I list or the Part II list. Courses listed in this area of the core must be designed to help students develop all Student Competencies listed below.

Student Competencies

1. To effectively communicate what scientific theories and methods tell us.

2. To work effectively with others when approaching a scientific problem.

3. To identify, analyse, and synthesize the information needed to solve a scientific problem.
4. To accurately apply quantitative methods when solving scientific problems.
5. Students will be able to understand and engage in the process of scientific inquiry.
6. They will become familiar with methodological approaches that enable natural scientists to evaluate and solve problems effectively.
7. Students will also appreciate how the scientific process combines technical and creative aspects and depends on the cooperation and interaction of scientists with each other.

6.2 Social Sciences

Courses in this category focus on the application of empirical and scientific methods that contribute to the understanding of what makes us human. Courses involve the exploration of behaviour and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture.Courses included in the social or behavioural sciences component area of the core curriculum are designed to help students understand the methods, approaches, and theories that social scientists have developed to understand societies and the relationship of individuals to societies. : As future leaders in a complex and inter-related society, students need to understand the human and social world around them. Social science courses promote this understanding by providing knowledge and methodologies that help students examine the foundations of human behaviour and the origins and consequences of social institutions. Tools of systematic social inquiry introduced in these classes enable students to construct and critically assess claims about social life and to become more effective and ethical problem solvers. Social science courses help students appreciate how their personal and professional actions can accommodate the world's diversity and promote a more peaceful and just society at all levels of citizenship. All courses in this area of the core curriculum must be designed to help students meet the following Student Competencies.

Student Competencies

1. To demonstrate an understanding of empirical methods, approaches, technologies that social and behavioural scientists use to investigate the human condition, as well as the resulting data, and to communicate these understandings effectively.

2. To examine social institutions and processes across a range of historical periods, social structures, and cultures.
3. To analyse the effects of historical and social forces on regional, national, and global communities.
4. Students will acquire conceptual tools and methodologies to analyse and understand their social world. With these tools, they will be able to act in their world more effectively and become forces for positive change.
5. They will gain a better understanding of human diversity. Students will be able to think and write critically about human behaviour and community.
6. They will become aware of the various methodological approaches used by social scientists.

7. Political Science

Courses in this category focus on consideration of the Constitution of the States and the constitutions of the states, with special emphasis on that which want to teach. Courses involve the analysis of governmental institutions, political behaviour, civic engagement, and their political and philosophical foundations. Courses included in the core component area must focus on consideration of the Constitution of the States and the constitutions of the states. These courses involve the analysis of governmental institutions, political behaviour, civic engagement, and their political and philosophical foundations. A total of six hours is required to complete this component area and must include at least one course with special emphasis on the constitution. Courses listed in this area of the core must be designed to help students develop Student Competencies one through four. Courses listed in this area of the core, which include a special emphasis on five competency of the students .

Student Competencies

1. To demonstrate a broad understanding of political behaviour and institutions in the States, including detailed knowledge of the Constitution of the States and its origins.
2. To apply basic social science concepts and theories to develop and evaluate social science data.
3. To organize and express ideas in a clear and logical fashion through written, oral, or visual communicative messages.

4. To analyse the role of civic duties, personal and social responsibility, and ethical decision-making as they relate to political behaviour.
5. To demonstrate a broad understanding of political behaviour and institutions, including detailed knowledge of the constitution and its origins.

Foundations	Explorations	Integrations
• Critical thinking and writing 1	• Ethics	• Experiential learning for social justice
• Critical thinking and writing 2	• Civic engagement	• Advanced writing
• Cultures and ideas 1	• Diversity and perspectives	• A cluster of courses with a shared theme
• Cultures and ideas 2	• Arts	
• Second language	• Natural sciences	
• Mathematics	• Social sciences	
• Religion, theology and culture1	• Religion, theology and culture 2	
• Religion, theology and culture3	• Cultures and ideas3	
	• Science technology and society	

1.7.4 Meaning of Expanded Core Curriculum

The term expanded core curriculum (ECC) is used to define concepts and skills that often require specialized instruction with students who are blind or visually impaired in order to compensate for decreased opportunities to instruction with students who are blind or visually impaired in order to compensate for decreased opportunities to learn incidentally by observing others. In addition to the general education core curriculum that all students are taught, students with visual impairments, starting at birth, also need instruction in the ECC. The ECC areas include (A) needs that result from the visual impairment that enable the student "to be involved in and make progress in the general education curriculum?and (B) other educational needs that result from the child's disability" as required by IDEA require the flexibility of school districts to make

arrangements for services to occur "beyond regular school hours to ensure the student learns the skills and receives the instruction" in the ECC.

The Expanded Core Curriculum compensatory or functional academic skills, including communication modes orientation and mobility social interaction skills independent living skills recreation and leisure skills career education use of assistive technology sensory efficiency skills Self-determination

The Expanded Core Curriculum Nine Unique Educational Needs for Students with Visual Impairments

The Expanded Core Curriculum (ECC) is the body of knowledge and skills that are needed by students with visual impairments due to their unique disability specific needs. Students with visual impairments need the expanded core curriculum in addition to the core academic curriculum of general education. The ECC should be used as a framework for assessing students, planning individual goals and providing instruction.The expanded core curriculum is a set of skill areas developed to augment the traditional core curriculum. The expanded core curriculum includes areas of instruction specific to students with visual impairments. Intervention from a teacher for students with specific to students with visual impairments. Intervention from a teacher for students with visual impairments is necessary to provide direct instruction in the expanded core.

What does IDEA say about the expanded core curriculum (ECC)?

- Each disability requires that a broad set of disability-specific skills and abilities be addressed. For students with visual impairments, the disability-specific skills are within nine domains and collectively known as the "expanded core curriculum" (ECC). When the domains in the ECC are systematically and intentionally addressed by all members of the instructional team, the student's independence and readiness for the post-school environment are dramatically improved. A visual impairment can affect all areas of functioning, well beyond the classroom. The ECC extends beyond reading, writing, and calculation. It includes those skills necessary to benefit from instruction in the core curriculum and to achieve functional independence.
- The ECC stems from the following IDEA requirements for evaluations: For children who are blind or visually impaired, evaluations to document the present level of academic and functional performance for the development of the individualized education program (IEP) are required by the federal Individuals with Disabilities Education Act

- And specially designed instruction: Specially designed instruction means adapting, as appropriate to theneeds of an eligible child under this part, the content, methodology, or delivery of instruction to address the unique needs of the child thatresult from the child's disability.
- Assumptions: While the concepts and skills affiliated with the expanded core curriculum (ECC) have been described formany years as those needed for students with visual impairments, the term "expanded core curriculum" (or"ECC") may be new to administrators, and possibly to VI professionals.Assessment and instruction for students with visual impairments in the ECC domains may be completed bythe VI professional, or other members of the educational team, including family members.Districts that have not been active in ensuring that each student has been assessed in all of the ECC'The two things I use every day of mylife are social skills and orientation andmobility skills. . . . Those were thelowest priorities for my teachers whenI was in school.' (K. Carley, an adultwith a visual impairment in a speechto the International Council forEducation of People with VisualImpairments.)Every parent wants their child to havemeaningful social relationships. Forparents, this is not an "optional"activity. It is critical to a satisfying lifeand success in a job. The ECCDistricts who have not been active in ensuring that each student has been assessed in all of the ECCdomains, may develop a plan to identify priority domains and timelines for completion of the assessments.While all students should be periodically assessed in all of the ECC domains, not all students will requireinstruction in every domain every year.Due to the non-traditional, but required nature of the ECC domains and the requirement in IDEA thatinstruction takes place in the home, school, and community, districts may need.

As per IDEA: Specially designed instruction means adapting, as appropriate to the needs of an eligible child under this part, the content, methodology, or delivery of instruction to address the unique needs of the child that result from the child's disability. From IDEA regarding evaluations: For children who are blind or visually impaired, evaluations to document the present level of academic and functional performance for thedevelopment of the individualized education program (IEP) are required by the federal Individuals with Disabilities Education Act. From IDEA regarding specially designed instruction: Specially designed instruction means adapting, as appropriate to the needs of an eligible child under this part, the content, methodology,or delivery of instruction

to address the unique needs of the child that result from the child's disability. "Specially designed instruction" for students with visual impairments, and based on assessment, specially designed instruction is the expanded core curriculum (ECC). The "expanded core curriculum" refers to the knowledge, concepts, and skills typically learned incidentally by sighted students that must be sequentially presented to the student who is blind or has low vision. The expanded core curriculum areas include:

1. Needs that result from the visual impairment to enable the student "to be involved in and make progress in the general education curriculum?? And 2. Other educational needs that result from the child's disability" as required by IDEA. The presence of a visual impairment requires that these skills be thoroughly evaluated and systematically taught to these students by teachers with specialized expertise. Without specialized instruction, children with vision loss may not be aware of the activities of their peers or acquire other critical information about their surroundings.

1.7.5 Need of Expanded Core Curriculum:

Every student is expected to leave high school with a strong grasp of "core" subjects like math, language arts, science, and history. But in order to master these subjects, and to eventually live and work independently, students who are blind or visually impaired must learn an additional set of skills known as the "expanded core curriculum." Essential life skills including social interaction, independent living, career education, and communication modes such as braille, must be taught alongside basic academics. For a student who is blind, learning about world geography from books is not enough. That student must also learn orientation and mobility skills and practice using a white cane for safe, independent travel. The expanded core curriculum empowers students with disabilities to access their education and make their own choices throughout life. Whether they are socializing and learning to handle money in the student store, finding their own way to classrooms across campus, or playing adapted sports in gym class, students are building a foundation for success in life at Perkins and beyond. "If students do not have these skills in place, they cannot become productive, independent adults," Teaching students with visual impairments in public schools while sighted children use visual experiences throughout their lives to learn concepts casually or incidentally, students who are visually impaired with or without additional disabilities cannot rely on sensory observations. The foundational skills they need for daily life in school, at home, and in the community, must be strategically taught and integrated into all aspects of their

education. The ECC areas include: compensatory skills, including communication modes (adaptations needed for students to access core subjects such as braille, sign language, or tactile symbols); orientation and mobility; social interaction skills; independent living skills; recreation and leisure skills; career education; assistive technology; sensory efficiency skills; and self-determination. To prepare lunch, students must plan the meal, shop for ingredients, and help out in the kitchen with everything from chopping carrots to cleaning dishes. The assignment requires students to practice orientation and mobility, independent living skills including handling money and cooking, reading recipes in braille, social interaction, and self-determination.

"It takes a lot of practice for students to integrate these skills into their bodies and minds," parents to work closely with teachers of the visually impaired toensure ECC skills such as the use of assistive technology, career education, and independent living, are well incorporated into their child's individual education plan (IEP).In short, systematically addressing the expanded core curriculum (ECC) makes a dramatic difference on how prepared students are for their next environment.Consider: Students with visual impairments attend postsecondary institutions at a rate that is comparable to students without disabilities. 29.4% of students with visual impairments are competitively employed versus 69% youths in general. 46.4% of students with visual impairments live independently versus 60% youths in general. "Vocational skills training for youths with visual impairments needs to incorporate the use of compensatory skills ." Having ECC skills makes "the difference between life and a successful life." "Students who receive high-quality instruction in the ECC have a 'richer quality of life' than do those who do not".Education director about changing to an ECC-based program. What is the role as anadministrator?As an administrator, have the unique role of ensuring that the ECC will be implemented in own district. Implementation will include issues related to staffing, service provision, and professional development. Let's get started!Role of VI professionals in the ECC and staffing issues Teachers certified in visual impairments (TVIs) and orientation and mobility specialists (COMS/O&Ms) certainly play a large role in providing assessment and instruction in the ECC. VI professionals are not the only key players.They provide: assessment and evaluation, direct instruction, consultation, collaboration, and facilitation with community and state wide resources. However, the scope of the competencies in the ECC and the need for instruction in the home, school, and community will require increased participation and creativity. VI professionals and others may require periodic changes in work shifts, collaboration with non-traditional partners, and various types of transportation support.Solid

supervisory/administrative support also includes ensuring that there is: evidence of ECC assessments in evaluation reports, evidence of IEP goals based on ECC evaluations, and evidence of ECC instruction during staff observations, including the performance evaluation. There are innumerable ways to support this change to an ECC-based VI program. Here are just a few examples: Support training for VI/O&M staff on addressing ECC needs through conferences, regional service centres, and other professional development activities. Provide resources for on-going data collection to VI/O&M staff to complete ECC checklists/evaluations as part of FVE/LMA and O&M evaluations. Provide strong support and time for collaborative team discussions on multidisciplinary approaches to addressing student ECC needs. Collaboration requires time? Without it, meetings collapse or become non-productive. Encourage creativity to meet the ECC instructional options. Consider time outside of the regular school day to accomplish ECC instruction Flexible schedules before and after school. Summer instruction Facilitate transportation Facilitate community exploration and experiences Student information needed to support either a caseload analysis or the ECC is very similar. Each will support the other. Starting with assessment as in other programmatic areas, a VI program based on the ECC requires plans for assessment and instruction. Many districts find that they have not completed assessments in all areas of the ECC. The VI professional or other team member may say "She/He can do that," but not have data to show whether target behaviour is age appropriate or generalizes to other settings or environments. For example, the classroom social skills may not be the skills most desired on the playground, at church, or in a social gathering. The hardest part is just getting started. However, armed with a plan and a timeline, completing assessments in all required areas can be accomplished.

- ❖ Evaluate student needs Review the existing documentation about the students. Look for the following documents:
- Eye examination report
- Referral and parental permission
- Functional vision evaluation and learning media assessment
- Additional evaluations, such as an O&M evaluation, assistive technology, adapted P.E. evaluation, clinical low-vision evaluation, and others, depending on individual students.
- Data-driven evaluations in all areas of the ECC. Multiple formal and informal evaluations and checklists exist. Two excellent resources are Evals: Evaluating

Visually Impaired Students from TSBVI and ECC checklists, including those developed by Education Service Centre.

- Prioritize domains for additional assessment. It isn't always possible to address all areas that may arise from your review at once. Gather feedback from students,parents, general and special educators, and support staff. Then determine a plan to address areas of concern as youbuild capacity ensuring that in the future all students are fully assessed. For example, set goals for the next round ofassessments, including:Domains that are especially sparse will be an early focus.
- Develop an assessment plan Gather your resources It all starts with a plan. It doesn't haveto happen all at once.Access to the ECC has provided thevehicle for transforming students withvisual impairments' independence andopportunity for enhancedpostsecondary outcomes. Special

Education director about changing to an ECC-based program. Once your priorities are set, determine how you will address the additional evaluations needed. Resources like Evals: Evaluating Visually Impaired Students (TSBVI) can be invaluable. Evals provides adetailed listing of specific areas addressed in school curricula. While thenames and organizations will differ from state to state, the knowledge and skills will be equivalent. Evals hasthousands of specific skills that can use to form checklists to meet your specific needs.The ECC Checklists from the Region 10 Education Service Centre bring all of the Evals data into a singledocument. The checklists can also be used to track progress over a period of years.An important consideration when using multiple assessment partners, especially when using checklists, is having a common understanding of the criteria for completion. This can be a common problem when one person thinks a student's skill is "good enough" and another thinks it is still "emerging." This can be due to expectations or issues in generalizations across environments. Regardless, consistency in scoring is a key factor to viable assessments. One way to ensure consistency in scoring criteria is to have a common scoring tool used across as many assessments as is reasonable. One tool could be the scoring criteria developed by Functional Resources, Inc. for the Functional Skills Screening Inventory. There is a basic one and variations for different environment and employment situations. Determine who will complete which necessary assessments. Some skills can be assessed in special education classes, including early childhood and life-skills type classes. General educators, including vocational and physical education specialists, are valuable assessment partners. Parents can assist with assessments in the home and community. Students may attend special events, such workshops or camps, where the assessments take place. The assessment

partners may need training on how to use specific assessment instruments. It may be as little as helping them understand the criteria for "independent" on a checklist, or it may be more extensive. If more extensive help is needed, professional development should be part of the implementation plan and the schedule should be adjusted as appropriate. Depending on plan to develop comprehensive evaluations for the ECC, schedule for assessments may be part of the re-evaluation process. Or the assessments may be scheduled to happen during the year in accordance with other academic and non-academic events. It could also take place during the summer, or while on field trips. The important thing is to have a schedule, one that is well known and viable for all team members. Embarking on a direct and high-quality program to support instruction in the expanded core curriculum (ECC) requires commitment and knowledge. The ECC has also made it easier for collaboration and co-treat models in for O&M, as well as speech, OT and AT. Special Education director about changing to an ECC-based program.

- Commit to the change. With a clear understanding of the expanded core curriculum, you are ready to guide your program to the next step in excellence. As a team, you and the VI professionals in your district will develop the resources and skills to implement this proactive change. The commitment to move to ECC-based programming may be a significant change and may affect many areas of the program, ranging from how educators and support staff spend their time, how professionals develop plans and approaches, to how educational teams interact. However, the result will be students who are better able to (a) benefit from the core curriculum, (b) transition to and function in their next environment, and (c) engage in a variety of social and career options with safety and confidence.
- Once the information is gathered from checklists, screenings, or other evaluations, the next step is to determine priorities, both for individual students and the program as a whole. It is possible that a review of all (or a sample of) the summary checklists indicates that many of your students have limited understanding in one or more areas. If so, then a plan to address the professional development and the acquisition of necessary resources will be needed.
- The challenge is to think outside of the box and find more focused means of meeting the ECC program goals? to develop and use new collaborative relationships and use available time in more varied ways.
- Ensure that VI professionals focus and teach only in expanded core domains. Other educators have the expertise and are available to teach core topics. Eliminate

tutoring from the VI professional's day. If a student is having trouble in a core area, is it because she or he doesn't know how to use the tools needed to access the information? Or is the reason more content-driven? For example, if a student is having trouble with spelling, the TVI will help if she can't use her magnifier to read the spelling words, but if she is having trouble remembering how to spell, someone else is better suited.

- Examine strengths and weakness in VI professionals. When a TVI or O&M specialist is unsure or unskilled and is responsible to working in a domain, the instruction will be less efficient, less effective, and will require more time. Help VI professionals in your district access the needed professional development and ensure that the new skills get implemented into daily routines. Develop appropriate and shared responsibilities of all team members. This may require new relationships, or changes in existing partnerships.
- Given the scope of the ECC and the range of caseloads, it is expected that some level of professional development will be needed. In addition to what neighbouring, regional, and state educational organizations and agencies provide, an increasing Social skills and assistive technology are particular areas I note intense student growth. Special Education director about changing to an ECC based program. Amount of targeted professional development options are available. More and more organizations are offering training via distance learning options, either through webinars, compressed video networks (interactive television systems), or any combination of like approaches. Also, since many distance learning training options are either free or have a single cost attached, more members of the student's educational team may attend, thereby incorporating the new information into a variety of learning environments.
- For some districts, incorporating the ECC will be a big change. It may be part of a 2-3-year plan to move toward excellence. Also, given the scope of the expanded core curriculum, it may require considerations in instructional and staffing arrangements. Below is brief listing of various options for your consideration as you and your VI professionals map out this new programmatic approach to visual impairments. Direct instruction with the VI professional(s) This may or may not be different from how instruction is currently delivered. The focus of the instruction may shift. Rather than providing tutoring services, the VI professional may instead increase instruction in how to access the general curriculum using, for example,

low-vision devices. Or instruction may occur more often out of the classroom, off the campus and into the community for vocational programming.

- Collaboration with other team members, including parents and community organizations Collaboration, or collaborative consultation, is an active process that takes place in the student's learning environment -whether home, school, or community. The VI professional may be present in classrooms and learning environments not visited previously, such as the home economics class, work programs, or home. Collaboration may also happen with community programs, such as Girl Scouts or various hobby-related groups, such as horseback riding or sports programs. Regional and state wide events can also provide experience and instruction in the expanded core curriculum domains.
- Many states have access to summer and holiday programs through a variety of sources. These may include camps, such as those sponsored by: Lion's Clubs, short-term programs at residential schools rehabilitation organizations Lighthouse for the Blind independent living centre's regional education service centre's adult mentoring can also be a very powerful tool. When students are connected with an adult with a visual impairment, they (and their parents) can get a better understanding of what will be expected of them once they leave the school system.
- For many districts, moving to an ECC-based program may be a big change and may require more than 1 year to complete. Here are a few tips for supporting this change: Remember options for addressing the ECC. Provide strong support and ample time for collaborative team discussions on multidisciplinary approaches to addressing students' ECC needs. Provide resources for on-going data collection to VI/O&M staff to complete ECC checklists/evaluations as part of functional vision evaluations/learning media assessments and O&M evaluations. Expect data collection and assessments to be part of standard instructional practices. Support training for VI-related team members on addressing ECC needs through conferences, regional service centres, TSBVI Outreach, and the like.
- When using multiple people to assess students and collect data, ensure that there is a common understanding of criteria and ratings. Work with VI professionals to find solutions for addressing ECC goals. Consider using time outside of the regular school day, including the use of exchange and/or comp time, instruction before and/or after the school day, and summer instruction. Provide support for transportation and community exploration and experiences.

1.7.6 Components of Expanded Core Curriculum:

The Nine Components or domains of the Expanded Core Curriculum are as follows:

- **Compensatory or functional skills:**

Compensatory or functional skills needed to access the general curriculum. Literacy-related areas, such as braille, handwriting skills, low-vision devices and tactual or object symbols.Compensatory and functional academic skills, including communication modes. Communication, including alternative communication systems, such as tactile or object-oriented systems. Compensatory skills involve the adaptations necessary for accessing the core curriculum,which can include: braille, tactile symbols, sign language, and recorded materials. On the other hand it may be say thatCompensatory or Functional Academic Skills, Including Communication Modes (Note: for this area of the expanded core curriculum for blind and visually impaired students, a distinction must be made between compensatory skills and functional skills. Compensatory skills are those needed by blind and visually impaired students in order to access all areas of core curriculum. Mastery of compensatory skills will usually mean that the visually impaired student has access to learning in a manner equal to that of sighted peers. Functional skills refer to the skills that students with multiple disabilities learn that provide them with the opportunity to work, play, socialize, and take care of personal needs to the highest level possible.). in many cases it find that Compensatory and functional skills include such learning experiences as concept development, spatial understanding, study and organizational skills, speaking and listening skills, and adaptations necessary for accessing all areas of the existing core curriculum. Communication needs will vary, depending on degree of functional vision, effects of additional disabilities, and the task to be done. Children may use braille, large print, print with the use of optical devices, regular print, tactile symbols, a calendar system, sign language, and/or recorded materials to communicate. Regardless, each student will need instruction from a teacher with professional preparation to instruct students with visual impairments in each of the compensatory and functional skills they need to master. These compensatory and functional needs of the visually impaired child are significant, and are not addressed with sufficient specificity in the existing core curriculum. So it will find Compensatory skills include skills necessary for accessing the core curriculum including concept development? Communication modes? Organization and study skills? Access to print materials?and the use of braille/Nemeth, tactile graphics, object and/or tactile symbols, sign language, and audio materials.Or Compensatory or functional academic skills, including communication modes-skills that a student with a visual impairment must

acquire to access the regular curriculum. These skills include learning braille, study and organizational skills, spatial understanding, and any adaptation of the existing curriculum.

- **Orientation and Mobility:**

Orientation and mobility instruction enables students of all ages and motor abilities to be oriented to their surroundings and to move as independently and safely as possible. Travel skills start in infancy and are not restricted to only those who are mobile, blind, or are without additional disabilities. Students learn about themselves and their environments, including home, school, and community. O&M lessons incorporate skills ranging from basic body image, spatial relationships, and purposeful movement to cane usage, travel in the community, and use of public transportation. Having O&M skills enables students to acquire independence to the greatest extent possible, based on their individual needs and abilities. As a part of the expanded core curriculum, orientation and mobility is a vital area of learning. Skills to orient children who are visually impaired to their surroundings and travel skills to enable them to move independently and safely in the environment.Teachers who have been specifically prepared to teach orientation and mobility to blind and visually impaired learners are necessary in the delivery of this curriculum. Students will need to learn about themselves and the environment in which they move from basic body image to independent travel in rural areas and busy cities. The existing core curriculum does not include provision for this instruction. It has been said that the two primary effects of blindness on the individual are communication and locomotion. The expanded core curriculum must include emphasis on the fundamental need and basic right of visually impaired persons to travel as independently as possible, enjoying and learning from the environment through which they are passing to the greatest extent possible. In these skills involved in independent travel and the concepts that underlie spatial reasoning and navigation. Safe and efficient travel throughout the environment. This procedure fully possible by the help of a specialized instruction, such as numerous methods to represent spatial, environmental, and temporal and/or body concepts, including those too small, large, or dangerous to be experienced directly.

- **Social Interaction Skills:**

Social interaction skills include awareness of body language, gestures, facial expressions, and personal space. Instruction also includes learning about interpersonal relationships, self-control, and human sexuality. Almost all social skills are learned by visually observing other people. Instruction in social interaction skills in school, work, and recreational settings is crucial. Almost all social skills used by sighted children and adults have been learned by visually observing the environment and other persons, and

behaving in socially appropriate ways based on that information. Social interaction skills are not learned casually and incidentally by blind and visually impaired individuals as they are by sighted persons. Social skills must be carefully, consciously, and sequentially taught to blind and visually impaired students. Nothing in the existing core curriculum addresses this critical need in a satisfactory manner. Thus, instruction in social interaction skills becomes a part of the expanded core curriculum as a instruction in social interaction skills becomes a part of the expanded core curriculum as a need so fundamental that it can often mean the difference between social isolation and a satisfying and fulfilling life as an adult. Or it may be say that having appropriate social skills can often mean the difference between social isolation and a fulfilling life as an adult. Since nearly all social skills are learned by observation of the environment and people, this is an area where students with vision loss need careful, conscious and explicit instruction. Because acquisition of the subtle modes of interaction that people develop by watching, imitating, and reacting to each other.Where visual impairments can socially isolate a student and affect his or her ability to benefit from innumerable non-verbal social cues. This can have an effect on the student's personal life and future employment.

- **Independent Living Skills:**

Independent living skills include the tasks and functions people perform in daily life to increase their independence and contribute to the family structure. These skills include personal hygiene, eating skills, food preparation, time and money management, clothing care, and household tasks. This area includes the tasks and functions people perform in daily life to optimize their independence - skills such as personal hygiene, food preparation, money management, and household chores.This area of the expanded core curriculum is often referred to as "daily living skills." It consists of all the tasks and functions persons perform, in accordance with their abilities, in order to lead lives as independently as possible. These curricular needs are varied, as they include skills in personal hygiene, food preparation, money management, time monitoring, organization, etc. Some independent living skills are addressed in the existing core curriculum, but they often are introduced as splinter skills, appearing in learning material, disappearing, and then reappearing. This approach will not adequately prepare blind and visually impaired students for adult life. Traditional classes in home economics and family life are not enough to meet the learning needs of most visually impaired students, since they assume a basic level of knowledge, acquired incidentally through vision. The skills and knowledge that sighted students acquire by casually and incidentally observing and interacting with their environment are often difficult, if not impossible, for blind and visually impaired students to learn without direct, sequential instruction by

knowledgeable persons.The myriad of skills that assists with living is primarily learned visually. Students with visual impairments are likely to need structured instruction in personal, financial, and/or home management skills. Family members may help facilitate learning these skills. People with vision typically learn such daily routines through observation, whereas individuals with visual impairments often need systematic instruction and frequent practice in these daily tasks. It can include cooking, personal hygiene, money management, time monitoring, and organization. These are often skill areas that children with visual impairments do not develop because they do not observe them in others and they are often not explicitly taught.

- **Recreation & Leisure Skills:**

Skills to ensure students' enjoyment of physical and leisure-time activities, including making choices about how to spend leisure time. Skills in recreation and leisure are seldom offered as a part of the existing core curriculum. Rather, physical education in the form of team games and athletics are the usual way in which physical fitness needs are met for sighted students. Many of the activities in physical education are excellent and appropriate for visually impaired students. In addition, however, these students need to develop activities in recreation and leisure that they can enjoy throughout their adult lives. Most often sighted persons select their recreation and leisure activity repertoire by visually observing activities and choosing those in which they wish to participate. The teaching of recreation and leisure skills to blind and visually impaired students must be planned and deliberately taught, and should focus on the development of lifelong skills. That while physical fitness is generally addressed in the regular curriculum, activities that can be used to actively fill leisure time are often not addressed. Without direction instruction, it is not likely that a child will be exposed to the range of activities possible. Students need to be exposed to recreation and leisure activities, as exposure may not happen incidentally. Students should be made aware of modifications needed to make an activity accessible.Being unable to observe others reduces awareness of recreation and leisure options. Instruction in recreation and leisure skills will ensure that students with visual impairments will have opportunities to explore, experience, and choose physical and leisure-time activities, both organized and individual, that they enjoy. This instruction should focus on the development of life-long skills.

- **Career Education:**

Career education-as in many of the other areas listed, children with visual impairments are often not exposed to a large variety of career options. This is both because of a lack

of prior visual experiences and because of a perception that the range of options is severely limited for children with visual impairments.

Unemployment and underemployment is one of the biggest problems facing adults with visual impairments in today's society. Students with vision loss benefit most from an experiential learning approach. Structured visits to community sites and discussions with people who perform various jobs, enable them to understand concepts and specific skills that are needed to be successful in those jobs. Considering the national rate of unemployment or underemployment of working-age adults who are blind is 70% -75%, this area needs attention throughout the school years to help students with vision loss develop marketable job skills. With limited ability to learn about employment options via observation, students need to be taught about the various types of career options and the skills necessary to achieve personal goals.Career education will provide students with visual impairments of all ages the opportunity to learn through hands on experiences about jobs that they may not otherwise be aware of without the ability to observe people working. They also learn work-related skills such as assuming responsibility, punctuality, and staying on task. Career education provides opportunities for students to explore and discover strengths and interests and plan for transition to adult life.There is a need for general vocational education, as offered in the traditional core curriculum, as well as the need for career education offered specifically for blind and visually impaired students. Many of the skills and knowledge offered to all students through vocational education can be of value to blind and visually impaired students. They will not be sufficient, however, to prepare students for adult life, since such instruction assumes a basic knowledge of the world of work based on prior visual experiences. Career education in an expanded core curriculum will provide the visually impaired learner of all ages with the opportunity to learn first-hand the work done by the bank teller, the gardener, the social worker, the artist, etc. It will provide the student opportunities to explore strengths and interests in a systematic, well-planned manner. Once more, the disadvantage facing the visually impaired learner is the lack of information about work and jobs that the sighted student acquires by observation.Because unemployment and underemployment have been the leading problem facing adult visually impaired persons in the United States, this portion of the expanded core curriculum is vital to students, and should be part of the expanded curriculum for even the youngest of these individuals.

- **Assistive Technology:**

Assistive technology is a powerful tool that can enable students with vision loss to

overcome some traditional barriers to independence and employment.Assistive technology is an umbrella term that includes assistive and adaptive tools as well as instructional services that can enhance communication, access, and learning. Access to information in "real time" is a key issue for students with visual impairments. High- and low-tech strategies may be critical for students to access the general curriculum and enhance communications. Use of assistive technology can be a great tool for providing access to information for people with visual impairments. Whether it is through speech, braille, or large print output, the use of technology gives a person with a visual impairment access to information at approximately the same time as a person who is sightedIt can include electronic equipment such as switches, mobile devices, and portable notetakers?computer access such as magnification software, screen readers, and keyboarding?and low-tech devices such as an abacus, a brailler, Active Learning materials (e.g., Little Room®), and optical devices. Technology is a tool to unlock learning and expand the horizons of students. It is not, in reality, a curriculum area. However, it is added to the expanded core curriculum because technology occupies a special place in the education of blind and visually impaired students. Technology can be a great equalizer. For the braille user, it allows the student to provide feedback to teachers by first producing material in braille for personal use, and then in print for the teacher, classmates, and parents. It gives blind persons the capability of storing and retrieving information. It brings the gift of a library under the fingertips of the visually impaired person. Technology enhances communication and learning, as well as expands the world of blind and visually impaired persons in many significant ways. Thus, technology is a tool to master, and is essential as a part of the expanded core curriculum.

- **Sensory Efficiency Skills:**

Sensory efficiency includes instruction in the use of vision, hearing, touch, smell, and taste. It also addresses the development of the proprioceptive, kinaesthetic, and vestibular systems. Learning to use their senses efficiently, including the use of optical devices, will enable students with visual impairments to access and participate in activities in school, home, and community environments. Students are likely to need structured and systematic instruction in visual, tactual, and auditory skills in order to benefit from other areas of the general curriculum and the expanded core curriculum.Or theseskills are help students use the senses - including any functional vision, hearing, touch, smell, and taste - to access skills related to literacy and concept development. But now a dayssensory efficiency includes instruction is the use of residual vision, hearing, and the other senses?for example, learning how to use optical devices, hearing aids, augmentative communication devices, and the like. In addition, learning how to integrate

all remaining senses to counter the impact of any missing or impaired sense is also integral to this area? for example, learning how to use tactual, gustatory, and olfactory input rather than visual cues to identify one's personal possessions, or using hearing and the other senses to identify people one knows without visual cues, fits into this area.Visual efficiency skills that although the amount and type of vision varies greatly among individuals, a common requirement is instruction in using what vision they have efficiently. For a student with a field loss, it might be viewing print eccentrically to maximize clear perception of the print. For another student it might be paying attention to objects in their peripheral field when walking to get as much advance warning of impending obstacles as is possible. Every person's situation will be different: that is why it is important to involve the TVI in the development of the activities designed to answer the needs outlined in the expanded core curriculum.

- **Self-Determination:**

Self-determination includes decision-making, self-advocacy, and individual responsibility. These skills lead to competence, as opposed to "learned helplessness," and are appropriate for all students, at all ages and abilities. It also includes choice-making, logic-making, problem solving, personal advocacy, assertiveness, and goal setting. Students with visual impairments often have fewer opportunities to develop and practice the specific skills that lead to self-determination. Students who know and value who they are and who have self-determination skills become effective advocates for themselves and therefore have more control over their lives. Skills to enable students to become effective advocates for themselves based on their own needs and goals.In this area of the ECC highlights the importance of believing in oneself, while understanding one's abilities and limitations. Students learn from successes and failures how to achieve one's goals in life. Self-determination is the ability for people to control their lives, reach goals they have set and take part fully in the world around them. Bringing together all of these skills learned in the expanded core curriculum produces a concept of the blind or visually impaired person in the community. It is difficult to imagine that a congenitally blind or visually impaired person could be entirely at ease and at home within the social, recreational, and vocational structure of the general community without mastering the elements of the expanded core curriculum. What is known about congenitally blind and visually impaired students is that, unless skills such as orientation and mobility, social interaction, and independent living are learned,

these students are at high risk for lonely, isolated, unproductive lives. Accomplishments and joys such as shopping, dining, attending and participating in recreational activities are a right, not a privilege, for blind and visually impaired persons. Responsibilities such as banking, taking care of health needs, and using public and private sectors.

1.8 Let Us Sum Up

Curriculum refers to the total structure of ideas and activities developed by an institution to meet the needs of students and to achieve the desired educational aims. A well designed and properly implemented curriculum can help aesthetic, emotional, ethical, intellectual, physical, social, spiritual and vocational development of a child. Curriculum is needed for national development, developing democratic life, rising standard of living, national integration and international understanding. Curriculum is all short experiences gained by the students in school through various planned activities and informal activities with the support teachers.

1.9 Check Your Progress

1. Describe the significance and needof curriculum.
2. Describe different types of curriculum. Which type of curriculum do you prefer? Discuss briefly.
3. What are the major factors that lead to the efficient implementation of the curriculum?
4. What are the various approaches to curriculum development? Explain one of them.
5. Write the needs of expanded core curriculum in special education.
6. What is core curriculum? Explain the difference between core curriculum and expanded core curriculum.

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Unit - 2 ❑ Teaching Functional Academics Skills

Structure

2.1 Introduction

Functional academic skills are the important part for a blind person's life like other people. Because of its usefulness it is too much important to know how a visual impaired person develops his ability in learning efficiency.Functional academics means-literacy (reading and writing), basic math, time and money skills, Self-care skills, domestics, recreation, community experiences, Formal employment opportunities which all are beginning in middle school. On the other hand it must be in mind if the procedure of teaching these skills isfollowing absolute correct method then the learning capacity of a child is easier or it must be said that the child can be able to use the skills totally. Learning media assessment, braille reading writing capacity and use print material in developing ability is come under functional academic skills. Or it may be said that these abilities are the major part of the functional academic skills. In this unit discuss about the process for developing functional academic skills.

2.2 Objectives

After going through this unit you will able to:

1. Describe various types of aids which are used in braille learning.

2. Explain the procedure of pre braille teaching methods.
3. List out the optical devices used in reading and writing.
4. Discuss the necessary for assess of learning media.
5. Follows the teaching techniques of braille.

2.3 Learning and Media Assessment

The Learning Media Assessment (LMA) offers a framework for selecting appropriate literacy media for a student who is visually impaired. A Functional Vision Assessment (FVA) should be done first, in order to determine what the student is able to see andhow he or she is using his or her vision. These two assessments should be used together to help to guide the team decisionabout the best instructional medium for a given student, such as braille, print, dual media (both print and braille), auditory, tactile or some combination. Learning Media Assessment is an assessment for selecting the appropriate literacy media for students with visual impairments. "Literacy media" refers to the way in which students access the general education curriculum and includes braille, print, auditory strategies, objects, and pictures, offers teachers and educational teams a framework or decision making process for the selection of literacy media, provides a decision and monitoring tool for both conventional and functional literacy for students with visual impairments, Involves a team process and the collation of medical, educational, family and student supplied data to make informed decisions.The LMA assesses a student's learning style, or the way in which he or she uses vision, touch, hearing, and other senses, either singularly or in combination, to gain access to information. This is where LMA has often been misunderstood. One of the key things that are assessed is the student's learning style, which is particularly useful when working with young children with visual impairments. The LMA scale should begin no later than age 3, when a child begins the transition to preschool. It should be updated annually and/or as visual functioning changes. This scale can be used academically for students who are in the general education curriculum and proceeding along an academic track. However, it should also be used with children with more complex disabilities in looking at functional literacy. LMA takes a broad definition of literacy, which includes reading and writing in some form, such as using drawing or expressive communication. Some Teachers of the Visually Impaired (TVIs) only look at the braille/print decision, but the Learning Media Assessment goes much further than that to look at the preferred sensory channels of ALL students.The primary reason to perform a Learning Media Assessment

is to ensure that all children have access to literacy and to education. In addition, Braille Bills require the determination of literacy media exist at both the Federal and State level. These various Braille bills assume that Braille is the modality to be used unless otherwise demonstrated through appropriate assessment. Learning Media Assessment offers the tool to make that determination and monitor it over time. For instance, the Legislative Changes in IDEA (Individuals with Disabilities Education Act), which was just reauthorized, states the following about Braille: "Consideration of Special Factors: The IEP Team also shall (iii) In the case of a child who is blind or visually impaired, provide for instruction in Braille and the use of Braille unless the IEP Team determines, after a determination of the child's reading and writing skills, needs and appropriate reading and writing media (including an evaluation of the child's future needs for instruction in Braille or the use of Braille), that instruction in Braille or the use of Braille is not appropriate for the child." This means that TVI's have to prove that, at that particular point in time; a student with visual impairments does not need braille. There exists a false assumption that every child who is blind or visually impaired needs braille. A Learning Media Assessment is designed to help TVI's make that determination. Teachers of the Visually Impaired really have to disprove the need for braille. TVI's should therefore be documenting that a child with, for example, cortical visual impairment or severe cerebral palsy, does not need braille, but needs to be evaluated with an LMA and can learn in other ways. The key point here is that TVI's document that their students do not need braille, but that they do need other intervention. LMA's Primary Goals are: "Examine efficiency with which student gathers information from various sensory channels", Types of general learning media the student uses, or will use to accomplish learning tasks, "The literacy media the student will use for reading and writing" and Using the Learning Media Assessment to Guide Educational Planning Once a Learning Media Assessment has been performed, the team should gather to weighvarious considerations in order to determine what medium is most appropriate for each student. Some students may learn better through a tactile mode and thus braille may be recommended, while others have sufficient vision to learn to read print. Still others may benefit from dual media, in which they learn both print and braille. For other students auditory channels may be the most appropriate.

A Learning Media Assessment or Reading Media Assessment (LMA/RMA), conducted by the Teacher of Students with Visual Impairments (TVI), is required to determine what kinds of literacy and functional learning materials are appropriate. Although sometimes used interchangeably, the Learning Media Assessment can perhaps best describe the assessment of the learning mode of students who are non-readers or pre-

readers. A Reading Media Assessment is a better term for students who are already reading. Either way, it access the way a student learns from the environment. The LMA/ RMA is a systematic way of collecting information about sensory preferences, learning environments, and intervention materials and methods. It is used with the Functional Vision Evaluation (FVE) to describe sensory abilities. It identifies sensory preferences, allows the Teacher of Students Visual Impairments (TVI) to understand how to present information to the student. For younger students or those with multiple impairments, the TVI can gain sensory information to the student, understand how to calm or alert the child, and identify adaptations and intervention strategies to promote effective use of senses. In an academic student, it is used to determine the primary or secondary mode for reading or if the student is a dual learner.The LMA/RMA indicates the use of sensory channels; best learning media; indicators of readiness for a literacy program; initial selection of literacy medium; continuing assessment of literacy media; and literacy tools inventory. When conducting the RMA, be sure to provide a variety of environmental print for the student to read in addition to using a formal assessment tool such as the Jerry Johns Basic Reading Inventory. If the student has been prescribed low vision devices, encourage them to use the devices. Possible media includes: class handouts, class textbooks, leisure books, maps, graphs, dictionary, diagrams, ruler, newspaper, magazine, catalogue, ads, phone book, menu, food labels, and clothing tags. Be sure to take note of the estimated font size and type.Also be sure to observe the students writing skills including keyboarding skills. Include if the student uses the correct fingering, and what the words per minute were as well as the errors. Observe the student copying information from the board and note the distance. Also observe the student copying information from a text to a separate paper. Note the size of writing, the difficulty and note if it was legible to the student and to you. Learning Media Assessment of Students with Visual Impairments identify the following characteristics of students who may be print learners. The student:

- Uses their vision efficiently to complete tasks at near distances.
- Shows interest in pictures and demonstrates the ability to identifypictures and/or elements within pictures.
- Identifies name in print and/or understands that print has meaning.
- Uses print to accomplish other prerequisite reading skills.
- Has a stable eye condition.
- Has an intact central visual field.

- Shows steady progress in learning to use his/her vision as necessaryto assure efficient print reading.
- Is free of additional disabilities that would interfere with progress in aconventional reading program in print.

They identify the following characteristics of students who may be braille learners. The student:

- Shows preference for exploring the environment tactually.
- Efficiently uses the tactual sense to identify small objects.
- Identifies his/her name in braille and/or understands that braille hasmeaning.
- Uses braille to accomplish other prerequisite reading skills.
- Has an unstable eye condition or poor prognosis for retaining currentlevel of vision in the near future.
- Has a reduced or non-functional central field to the extent that printreading is expected to be inefficient.
- Shows steady progress in developing tactual skills necessaryfor efficient braille reading.
- Is free of additional disabilities that would interfere with progress in aconventional reading program in braille.

2.4 Braille Reading Readiness

One of the most difficult tasks facing the kindergarten or first grade teacher is to recognize the degree of readiness to read whichher young students have attained by the time they face her on thatfirst September morning. A great deal has been written on the subject of reading readiness, which is as it should be, since it is so important a subject. However, much that has been written is inaccurate, and most of it is incomplete. There is essential agreement on what is meant by the words, "reading readiness." It might be translated as, "the time at which a child is capable of learning to read." Traditionally consider that a child is ready to read when he is about six years and six months old. Formal reading instruction is introduced in kindergarten or in the first grade, and since we have rules that govern when a child may start school, it customarily happens to six-year olds. Thus chronological age is made the official gauge of reading readiness. There are, however,

many people who have challenged this timetable. Some parents became aware that their offspring were ready for new experiences and new learning opportunities long before the "average" child was ready. They began trying out new learning experiences on their babies, and they saw that their children not only learned, but that they delighted in the exploration of new territory. Thus was born the belief that children--even infants-were capable of learning far more than had been asked of them heretofore. Educated parents and interested educators became excited with the possibilities of advanced education for very young children, and a new philosophy was instituted; teach your child to read before his second birthday. Babies have been taught to recognize symbols, and they have been taught to match the symbol-clusters with certain verbal stimuli. They have even been able to identify objects symbolized by the printed, written or vocalized stimulus. So far, however, no one has been able to show that a two year old can comprehend, "the blue chair I saw yesterday is softer than the one you are looking at now." There are others who suggest that a child should not be introduced to reading until he is eight years old or older.

In any case, in order to decide when reading readiness occurs in a child, we must know what reading is. Is reading the identification of symbols? Is it the ability to reproduce those symbols in some other form, such as pronunciation or cursive writing? Is it the interpretation of the symbols? We can identify and correctly pronounce "slithery in the troves," but can we attach meaning to it? It seems obvious that reading must be "a purposeful activity in which the individual seeks to identify, interpret, and evaluate the ideas and points of view expressed by the writer." The reading readiness process has a number of prerequisites-

1. Before a child actually starts to learn to read, he should have a variety of concrete experiences which give him knowledge about things and relationships between them and also understanding of relationships between cause and effect.
2. A child must acquire basic language skills and sufficient vocabulary to correspond with his experiences.
3. He should be able to understand directions and express himself sufficiently.
4. He should have acquired adequate attention span.
5. He should have developed the ability to localise objects through hearing, a modicum and self -control memory.
6. The child need have motivation and the curiosity to learn about things in general.

Reading readiness is the product of the whole child, not a splinter or a segment of

himself. Reading is a process of perceiving symbols, of visual, oral and aural discrimination. It involves the ability to form concepts, and it certainly involves prior experience. If a child has never been introduced to the fact of wetness, or hardness, or even of a cow or a cat, the written or oral stimulation of the word will not evoke any mental image in the child. He will not be able to read those words, no matter how well he can pronounce or reproduce them.The time in a child's life when he becomes capable of reading involves a manifold readiness Gestalt. He must have reached readiness in four different aspects of growth; physiological, psychological (emotional and intellectual), educational and sociological (cultural and environmental). A child must be ready physically before he can learn to read. Children ordinarily start out far-sighted, and their eye muscles slowly tighten in their focusing ability. Book publishers are aware of this and accommodate their clients by using large type for little children. Very often we find that poor readers have "double vision" which usually means their focus field is too far out; that they are still farsighted. Also, auditory acuity is a near-necessity. Reading, talking, and listening are so intertwined as to be almost inseparable. There are Helen Keller's in the world, but they are remarkable exceptions. Physical factors are also important in that a child must have mastered at least a modicum of ability in use of fine- as opposed to gross muscular control. The sequence of growth follows a typical pattern in humans, but the rate of this growth is a highly individual process. The sequence of development is from the head downward, from the centre outward, and from gross to refined movements. The grasping of discrimination between "b" and "p" requires fine distinctions, whether the stimulus is visual or oral. A third requirement in physical factors is general good health. If a person has an habitual headache, or he is partially blind, or his feet hurt constantly, he will not be able to concentrate on the intricate process of reading.Psychological factors are every bit as important as the physical,in determining reading readiness. Educators differ in their evaluation of a person's "intelligence quotient," but everyone will undoubtedly agree that there are degrees of mental maturity, and that a child must have attained a certain degree of intellectual functioning before he can assimilate what he reads. One of the most important factors of all is emotional stability and maturity. A child who is at odds with himself and the world will not be able to concentrate on those black-on-white squiggles on a page. A child who has been taught to be super organized and structured will be unable to venture into the excitement of reading and, conversely, the disorganized, wholly impulsive child will be incapacitated. The paranoid child will not be able to accept the authority of the printed word and the autistic child will refuse to respond in any way. The degree of

instability or immaturity of a child has a direct relationship to his reading readiness. It is interesting to note that there is a typical pattern of development in the human personality, just as there is in the physical growth. "At some ages (C.A. 2, 5, and 10 years) the child tends to be good tempered, cooperative and well adjusted. These are followed by ages (C.A. 2Y2, 5Y2 to 6, and 11 years) when the child seems at odds with himself and others. There are also regular periods of-withdrawal and introspection (C.A. 3Y2, 7, and 13 years) followed by ages at which the child is outgoing, expansive, and adventurous (C.A. 4, 8, and 14 years)." So far as young children are concerned, the third factor, education, must be considered in conjunction with the child's sociological background. Aside from any nursery school he may have attended, educational factors are a product of his family's culture and environment. The type of society the child comes from will have an important bearing on the direction his development takes. Cultural differences have been widely discussed in the past few years and need not be reiterated here. The educational-environmental factor is influenced by the kind of family the child belongs to. Some of the more important aspects are: the language patterns within the home; the concern and interest of the parents in stimulating the child to explore new ideas and new places; the attitudes parents have toward learning, toward school, and toward books; the model they present to the child; and, the care with which they provide mental content, or experiential background. Some of the specific things the teacher hopes a child has learned before he enters first grade, which parents might teach their children, are how to hold crayons or pencils, to become familiar with writing implements, the ability to detect likenesses and differences, the ability to rhyme, being able to interpret pictures, also the conventional left to right progression, and hopefully the attention span of the child will be sufficiently lengthened so he can sit still long enough to learn new things. The teacher who is faced with anywhere from ten to thirty kindergarteners or first-graders cannot expect that they will all be at the same stage in the developmental process. Difficult as it is, it is up to her to recognize the degree of readiness of each of the children. There are many reading readiness tests on the market; however, none of them is comprehensive enough to take into accounting all of the factors necessary. By means of an appropriate selectivity of standardized tests, informal inventories and observation the teacher can become proficient in recognizing the physiological, psychological, educational, and sociological factors which combine to produce the "complete" child who is ready to read.

The concept of braille reading readiness depends on three major facts these are as follows-

1. **Pre braille training:** through pre braille training, the children learn to be sensitive to the positions of the six cells and to distinguish the difference between dots and lines by using Peg Board. When they are ready to teach braille numbers the English alphabet and Bharti braille initial particles. Braille boards are used for practice. Another important aspect in training the 'reading fingers' is the skills of scanning and locating text ranging from the orientation of lines to paragraphs and pages.
2. **Tactile training:** without vision the children received fragmentary information through their sense of touch and form a concept of the 'whole' from the information of the 'part'. Therefore tactile training and pre braille training are very important to visually impaired children. In order to acquire sensory acquity and efficiency tactile training, manipulative play and art and craft activities are emphasized.
3. **Training in Reading Graphics:** reading symbolic pictures in raised forms in another specialized areaof training since braille textbooks also require the incorporation of graphic illustrations. However when they are in the form of photos they are too complicated to be represented in line graphics and thus brief.

The development of tactual exploration and discrimination skills are necessary for future braille readers. It is also important for students with cognitive disabilities who may not be able to learn formal braille, but can learn to discriminate objects by touch to help make sense of their world or to use for communication.

Locate & Explore Objects

One of the first steps in becoming independent and reaching out to tactually explore the world is for students to attempt to reach out and locate objects. The facilitator may need to assist the student in developing an interest in locating objects. One primary way is to not retrieve objects for the student. If the student loses an object, provide a sound source to help the student locate the object, or touch the object to the student, but encourage them to reach for and obtain the object. This is part of the student beginning to understand object permanence.

Encourage students to:

- Reach for and obtain an object that comes into contact with theirbody. As stated before, try to involve the student in the process oflocating and obtaining objects. Students need to understand thatobjects continue to exist even when they are not

in contact. Tap thetoy/object on the tray or floor if it fell on the floor or place the objectin touch with the student's arm or leg.

- Locate partially or fully hidden objects. Help students explore theirarea and teach them that they can locate partially hidden objects.Play fun hide and seek games by partially hiding the object. Ifstudents have difficulty, provide a sound source by the object to helpthe student locate it.
- Find objects after systematic search (use a search pattern to locate anobject). Teach the student to use a pattern to locate materials. Forexample, starting in the top left hand corner and working in a zigzagpattern moving to the right and left and up and down until theylocate the object.
- Retrieve object when placed in their usual location. Students shouldbe oriented to the room and be instructed in where materials arekept. Refer to "Labelling System" for suggestions on creating a well-organized area that can assist studentsin locating materials.
- Explore a variety of objects with both hands. Provide tactuallyinteresting materials to encourage exploration.

The Importance of & Tactual Discrimination Finger Sensitivity

When preparing for braille literacy, it is important to develop tactual discrimination skills and finger sensitivity. The development of tactual discrimination skills follows an order from larger to smaller that is similar to the development of the hands and fingers. It begins with using the whole hand to explore objects and progresses to using fingers and fingertips to examine the details of tactile materials. Students with limited sensitivity intheir fingers may not be good candidates for braille reading. There are a variety of diagnoses that can cause numbness or reduced sensitivity in thefingers. This will be a factor in determining if a student will be a candidatefor formal braille instruction.

Tactual discrimination usually follows the following sequence:

1. Three-dimensional forms;
2. Flat shapes, such as puzzle pieces;
3. Embossed shapes with the entire area rose;
4. raised outline shapes and raised lines;
5. and finally braille letters.

Identify, Compare & Organize Objects

Encourage the student to begin to identify, compare and organize objects and toys they are exploring. Talk to the student about different temperatures, weights and textures and encourage them to locate identical or similar materials. Draw the student's attention to where toys and materials are located and encourage them to locate the objects and put them away in their correct place. Encourage students to begin identifying and naming objects. Once they are successfully able to identify objects, begin to transfer this skill to embossed shapes, and then outlined shapes.

Developing Tactual Discrimination & Finger Sensitivity

You can help the development of tactual discrimination and finger sensitivity by providing many opportunities throughout the day for the student to tactually discriminate materials and compare similarities and differences, classify, and sort. Many commercially produced classroom classification kits consist of moulded plastic figures that all feel the same. These lack the variety of textures of real objects. Instead, use real materials whenever possible. Using real materials that support the current topic make these activities interesting for all students! Draw the student's attention to textures and describe the textures. This will help the student become aware of their differences. You can help a student develop finger sensitivity and refine their tactual discrimination skills by providing them with a variety of textures to match, sort and play with and explore. When selecting toys, choose toys that are tactually interesting.Throughout the activities, provide the student with the language that connects the experience. See the section for a list of materials to classify and sort. Although real materials should always be included in each unit, commercially available texture sorting materials to complement these activities. These activities are as follows:

1. **Sensory Play**

Fill a bin or container with water, beans or sand, or unit related material.Add unit related confetti, sequins, mini bells, beads or other items in coloursrelated to the unit or materials related to the unit. Provide the student with empty containers. Encourage the student to transfer the materials from the bin to the container using sponges in shapes related to the unit or other utensils and tools. Provide droppers, measuring cups, and various tubes for water play. Provide scoops and a variety of tools for dry material play.

2. **Texture Match**

Obtain a variety of textured papers, fabrics, and materials in colours related to the unit. Using the materials, create a texture match board or file folder activity.

3. Feely Bag

Place unit related items in a bag. Have the student take turns reaching into the bag and identifying the item(s). Once the student has identified the objects, extend the activity by encouraging the student to match the item to the printed word. Encourage the student to have more time exploring the details of the materials. Provide two of each item and have the student match objects.

4. Object/Word Match/Sort

Present the student with three identical items or words from the unit and one item that are different. Encourage the student to identify what object or word is different from the others. On the other hand another suggested materials are-

(i) Flip-Over Concept Books:This concept book provides interactive, independent learning from young children as they build basic concepts and develop early tactile skills.

(ii) Scattered Crowns: TactileAttribute Game that encouragesyoung children to develop tactileskills.

(iii) Ruffs House Teaching TactileSet: This texture matching toy by directional and positional concept. Learning Resources is another fun way to practice matching texture.

(iv) Giant Textured Beads with Pattern Matching Cards: This bead and card set includes 12 large beadsthat vary in colour, shape, andtexture and include patternmatching cards and sorting trays.

(v) Occupational Therapy Tactile Discs: This toy challenges children's sense of touch on both hands andfeet. The tactile discs are made of synthetic rubber and containdifferent tactile structures. Activity suggestions for memory and recognition.

(vi) Textured Matching Blocks: encourages recognitionof textures, identification of textures by name, and tactualmatching, while reinforcingdirectional and positional concepts.

(vii) Teachable Touchable Textures: Thesetextures by Educational Insights are a fun way to practice matching textures.

2.5 Techniques of Teaching Braille

The beginning braille reader, like all beginning readers, must acquire the readiness skills associated with the actual reading process. An important prerequisite that all readers

must have to be efficient and read with comprehension is a rich background of concrete experiences involving many objects, people, places, activities, and cause and effect relationships. In addition, the child must have receptive and expressive vocabulary that corresponds to his experiences. Each individual child must develop auditory skills of identification, closure, sequence, memory for stories, and discrimination. The young reader must be able to concentrate, exert self- control, and follow directions. Another important readiness factor is motivation. Once the student has experiences and language sufficient to read, he can begin a more structured reading program. There are many effective teaching programs used to provide reading instruction. Each child will have his or her own unique set of experiences. The teacher will find that the number and quality of concrete experiences will vary from child to child. One should never assume that basic information is correctly understood until the child can demonstrate that he or she does understand. While both sighted and blind children require language concepts, it is more time consuming to provide the experience required to teach the concepts to the student without vision. Other point is that motivate the child for reading acquired sufficient readiness skills and vocabulary before start meaningful reading. For developing this using various method these are-

1. **Word method:** the word method makes use of meaningful whole words from the beginning. Children are helped to move their fingers so as to rapidly cover words high interest to them with a single gilding sweep until they become familiar with the total configuration. To encourage discrimination, a sheet of paper may be used, containing three or four words repeated in three or four lines, with the same words being used exactly on the same place in each line. Flash cards can similarly be used and the child be told to short them on the basis of likenesses. This exercise can be further developed by using words having the same letters or many of the same letters but in different sequences. Analysis of individual letters can be done later on when the child is able to recognise whole word configurations.
2. **Sentence method:** the sentence method makes use of a few small sentences with varying constructions in which more or less the same words are repeated time and again. The child is first required to memorise the sentences by rote and then tries to read them. The idea here is that with sufficient practice over time, the child becomes familiar with certain words. Analysing of individual letters may not start before the child has learnt to recognise few hundred words.
3. **Letter method:** in contrast to the above mentioned analytic methods as they are known, we have the synthetic method. Here, the child first learns to recognise

individual letters and then combines them into whole words. The first letters may be chosen on the basis of ease of recognition and when the child can tell one from the other with some rapidly; these can be combined together to form words.

4. **Multi method:** even a multi method approach may suit some children. Here the child is taught to recognise whole words and is simultaneously enable to analyse individual letters. In this metod, letters to form the words may be chosen on the basis of recognition. Remaining letters of alphabet may also be selected according to their ease of recognition.
5. **Comparing method:** it is different to pronounce judgement on the comparative merits of the four methods of introducing braille. There is perhaps no need for being dogmatic. Children differ from one another in their mental make-up and learning styles. Therefore, different approaches will have to be tried out with each individual child.

It is important to provide experiences in a natural environment. The child who has been read to, seen braille labels, and experienced braille books is more apt to understand. The children that have already learned to read print have mastered the "reading process" skills; however, they must develop the skills associated with reading using their fingers. All students learning to use braille must acquire the following:

- **Tactual Discrimination:** Theability to discriminate discrete tactualdifferences is essential to efficient braille reading. The noticeable shape orarrangement of dots is the most critical variable in braille reading. Do notteach the child by teaching the dot numbers. This may be helpful to theperson who reads braille with his eyes, but not for the tactile reader. Also, avoid teaching the idea that some letters are reversible pairs? for example,"r" and "w."
- **Finger Dexterity:** Theeffective braille reader will have "curious" fingersthat move quickly, with ease. Many readers use all four fingers of eachhand. This speeds up the reading process by allowing the reader a view of aseries of symbols rather than a single cell.
- **Hand and Finger Movement:** Mostgood braille readers use two hands. Askilled two handed reader begins reading a line of braille by placing bothhands at the beginning of a line. At approximately the middle of the line, theright hand continues to read to the end of the line while the left hand movesin the opposite direction to locate the beginning of the next line. The righthand finishes reading the first line,

the left hand then reads the first words onthe next line, and the right hand quickly joins the left hand on the secondline.

- **Light Finger Touch:** Beginningreaders may have a heavy touch, however,to be good two hand readers one must acquire a light touch. Games may becreated to help students develop a light touch. An example of an activity toencourage a light touch is to ask students to slide their fingers across a pieceof paper without moving the paper. This takes practice and attention to task.In addition, the student's hands should move smoothly from left to rightwithout stopping.
- **Page Turning:** Thestudent should be instructed to turn the page quicklywith the right hand when the left hand cannot find another line.

As we teach young children with visual impairments/blindness towrite braille, our approach needs to be developmental. We need towrite braille, our approach needs to be developmental. We need tolook at readiness for formal instruction, and then we need to adjustour pacing, expectations, and activities according to the learningneeds of young children. In the guidelines that follow, theseapproaches are addressed.Before children begin a formal braille writing curriculum, they should be able to attend for at least afew minutes at a time. They also should be able to isolate their fingers and their thumbs, pressingeach one separately and firmly. (Modelling with clay and manipulating other art materials canincrease hand strength. Children's songs and poems can be used to teach them to isolate andname their fingers. If these are not available, teachers can invent simple verses, themselves.)Next, it would be helpful if the children already have some experience with braille and tactilesymbols, pretending to read tactile books and being involved as older children and adults read andwrite braille. Lastly, because literacy builds upon language, they should be able to speak or signwords and simple messages, and understand as others communicate with them. (However,please note that while language provides readiness for braille, sometimes braille literacy in turnbuilds spoken/ signed communication skills. In forming braille symbols, children at a prelanguagelevel may come to realize that written messages carry meaning. This may motivate and shapetheir spoken/signed language skills.)

Make It Fun

1. Emphasize enjoying braille and having fun with it. There is an expression that "playis the work of children." It's important for young children with visual impairments to enjoyreading and writing braille, rather than regarding it as an arduous task that is to beresisted. Adults can make braille fun by incorporating children's ideas in what they readand write, in keeping sessions short, and in

modelling their own pleasure in brailleliteracy. ("Oh, it's a brand new page. The dots are so nice and crispy!" or "I think I'llsee how fast I can write the numbers 12345.")Another marvellous way to bringenjoyment to braille writing is to pair it with music, such as singing an alphabet songwhile writing the ABCs.

2. Give children the opportunity to playfully explore reading and writing. Let thempretend to read as they move their fingers across pages, even if they have no idea whatthe letters and words say. And let them form patterns and pretend to write before youask them to produce conventional braille characters. This might involve children simplypressing any keys until they reach the end of a line and the bell rings, or creating an uphilldownhillpattern by pressing dots 3 then 2 then 1 then 4 then 5 then 6, or making asimple tactilegraphic by alternating dots 1245with dots 2356.It might involvepretending to write: pressing seemingly random keys while telling a story orally, just asyoung sighted children do. Children typically take great pleasure in doing what theynotice adults and older children do, and even more when the adult joins them inreading back" what they have "written."

3. At the beginning of the curriculum, enthusiastically accept approximations, or allattempts to read and produce braille. Then gradually guide children to use correctposture and hand formation, to read real letters, to decode real words, and to produceBraille which is increasingly closer to conventional braille. A component ofincorporating fun into early braille is giving children the freedom to attempt it withoutneeding to adhere to rules they are not developmentally ready for. That is, while somechildren will be motivated to form correct characters with correct fingering right from thebeginning, others will be easily discouraged if every early attempt is suppressedbecause a key is pressed with the wrong finger, or a character is inverted. As long ascorrect posture and fingering are expected in a reasonable amount of time, inefficientposture and movement habits don't seem to persist. Given this, a successful practice isto enthusiastically respond to all early attempts to read and write, even when they areincorrect, then gradually expect greater and greater accuracy.

Make It Meaningful

1. Let children experience whole events, from obtaining books or a braillewriter andpaper, using them, and then putting them away. It clearly takes time for a child to walk to ashelf, pick up a piece of paper and a braillewriter, carry these to his/her desk, load thepaper in the braillewriter, produce his/her work, unload the

paper, and pass in the paperand store the braillewriter back on the shelf. However, participating in the whole eventallows the child to understand the literary process and develop independent literacyhabits. The child doesn't need to participate in the full process every time he or shewrites. However, it is important for him/her to do this periodically, or at least toparticipate in some of the obtaining/putting away steps regularly.

2. Let children witness adults reading and writing braille. Fully sighted childrenregularly see adults as they read books, signs, menus, instructions, etc., and they seethem as they write notes, lists, letters, etc. In witnessing adults doing literacy, sightedchildren learn about literacy tools, literacy techniques, and purposes for literacy. Withthese models, they become motivated to do literacy, themselves. Future braille usersneed these same models. To accomplish this, even if adults read braille visually andnot by touch, they might open their own braille books as they are sitting besidechildren, explicitly labelling what they are doing. ("I think I'll read this story. Oh, I likehow the design on the cover feels. Now I'll turn the page and read who the author is……") Similarly, adults might make it a point to save some of their braille writingtasks for times when the children are within earshot (and possibly even within reach), sothe children can hear a braillewriter being carried to the table, the paper being loadedinto it, the keys being pressed, lines periodically checked, errors corrected, etc.. Theadults may mediate as they write, just as they had when they read out loud, "I think Iought to write down this telephone number, so I won't forget it. Let's see, which dots isa number sign?" or "I'm going to make a list of all the children in the class now. I'll startwith a capital sign……" This exposure to purposes and methods of writing willintroduce children to some braille writing steps, and it will motivate them to write, aswell.

3. Integrate reading and writing, so that children continuously read back what they havewritten. Braille reading and braille writing are quite separate processes. First, they arebased upon different sensory systems. Braille reading is tactile and motoric?dots arefelt through the touch receptors in the fingertips as they move across lines. Braillewriting is kinaesthetic/proprioceptive and motoric?dots are formed by moving the fingersto press specific keys, and braille writing is mastered by memorizing how the joints inthe fingers feel as specific keys are pressed. Secondly, when braille is produced with abraillewriter, reading and writing are based upon different layouts of the six dots. Brailleis produced in a onebysixarray, with the six keys in a horizontal line to produce, fromleft to right, dots 321with the left hand and then dots 456with the right hand. Brailleis read in a

twobythreearray: dots 123in the first column, and dots 456in thesecond column. Given these differences, children should integrate reading and writingby writing a few characters, reaching up and feeling what they produced, writing a fewmore characters, feeling these, etc. This sets the stage for more advanced literacyprocesses, where students may write preliminary notes, write a first draft, read it back,then write a finish draft.

4. Approach the mechanics of braille production and reading within the largercontext of Braille literacy. Give children opportunities to produce braille characterswhich are meaningful and functional for them as soon as possible. Children are oftenmotivated to read and write their own names, and those of friends and family members.Children who often ask, "What 's next?" may quickly realize the importance of a simpledaily schedule taped to the corner of their desks. Place a strong focus on reading andwriting messages which have meaning for the children, even when their braille readingand production skills are extremely limited.

Make It Developmental

1. Allow some portions of lessons to be child led,that is, let the children have somechoices as to what they write with the braillewriter. This can provide more functionalityand more motivation in braille literacy curricula. For example, in introducing a specificletter of the alphabet, a teacher might let the child select a list of words that begin withthis letter, rather than preplanninga teachermadelist. Similarly, children may be muchmore motivated to read and write lists of family members, favorite toys, or preferredfoods.

2. In sequencing both producing and reading braille characters, build from symmetricalto asymmetrical, from fewer dots to more dots, and from unique characters thatare easily reversed and/or inverted. In addition, in writing braille, try to begin withletters that use the first and second fingers of each hand (dots 1, 2, 4 and 5), thenbuild to writing letters with the third fingers (dots 3 and 6.) (An example of asymmetrical braille letter is "X" and an asymmetrical braille letter is "M." In terms ofnumber of dots, braille letters "A" and "B" have fewer dots with one and two,respectively, while "Q" and "Y" have more with five dots each. "G" is not easilyreversed with other letters, while early readers typically confuse "E" and "I", "M" and "U","R" and "W", and "D", "F", "H" and "J.") Published braille literacy curricula vary in theirsequences of letter introduction. That is, there is not a standard for exactly which letteris introduced first, second, third, etc. However, all the braille literacy curricula for youngchildren take into account these principles

of symmetry to asymmetry, fewer to moredots, and unique to easily reversible characters. Beyond that, easilyreversible/invertible characters should not be taught together?for example, a teachermight have the child learn the letter "R" to mastery before introducing the leftrightreversal of "W." Specifically to writing braille, the fingers that are used is also a factorfor sequencing. The first and second fingers of each hand are typically stronger thanthe third fingers, so a braille "A" (dot 1) will probably be easier to form than a capitalsign (dot 6.) Of course, all four of these factors may be trumped by letters/words thatare most motivating and/or most functional for children, such as their own names.

3. Begin by scheduling short lessons, and expect speed and stamina only at theend of the curriculum. Young children have short attention spans, perhaps especiallyfor the more structured, seated tasks of braille literacy. Physically, it takes time to learnto maintain correct reading and writing posture and hand/finger positioning, to toleratethe sensation of running their fingers over Braille lines, and to strengthen each finger,especially for pressing the keys for dots three and six. It also takes time for children tobuild up speed in reading writing, especially with the letters with more dots.Accordingly, braille writing instruction might begin with just five or ten minute lessonsand expectations of just a few lines of braille. (In braille writing, the margin might evenbe set in the middle of the page, so that each line is shorter.) As lessons progress,lessons become longer and longer and expectations for strength and stamina increase.Sometimes children maintain their attention in braille, and sustain more arm and fingerstrength, when they stand (rather than sit) at a table or desk as they read and writebraille. In any instance, the pages or keys should be at elbow level or even slightlylower.

Exercise and special activities are needed to develop strength, dexterity, and endurance. Writing braille using a braillewriter will assist the braille reader by reinforcing his recall and memory of the shape of the letters and symbols. Students will perform better if their hands are clean, dry, and warm. Furniture should fit their bodies allowing the arms from the wrists to the elbows to be even or a bit higher than the desktop. Feet should be flat on the floor and the back straight.

Every braille teacher's "dream student" is the one who approaches the task of learning braille with enthusiasm and an understanding of how much they will benefit from this new skill. In reality, however, many newly blinded adults bring with them a number of myths and stereotypes about blindness in general and braille in particular. Here are some suggestions that may help put braille in a positive light and encourage a somewhat

reluctant student to give braille a chance. Change negative attitudes about braille, and dispel the myths and stereotypes. Explain that braille doesn't "make you blind"?nor is being seen reading or writing braille in public a symbol of weakness or lack of ability. On the contrary, knowing braille is a symbol of literacy, competence, and independence. Tell students to bring their literacy skills with them. They already know how to read and write?this is just a new code, and they can learn it. Explain how braille will fit into each individual student's life. Make braille immediately relevant by stressing functional uses: making lists, keeping track of phone numbers and addresses, reading to children or grandchildren, labelling personal items, and so on. Point out that braille will insure privacy. Students can keep journals, write reminders to them, and keep track of finances, and so on. Increase positive impressions of blindness and people who are blind. Encouraging students to get in touch with successful blind people is a good way to do this. students to get in touch with successful blind people are a good way to do this. Find other adventitiously blind volunteers to mentor newly blinded students learning braille. This way you can set up a "mentoring partnership" with a student and another adult who is blind. People have individual learning styles. Each learner will have his/her own way of mastering braille and incorporating it into daily life. Here are some suggestions from teachers with experience in teaching braille to adults. Choose the techniques you feel will work most effectively with each individual, and combine them with your own ideas. Start with something simple and personal (e.g., the student's name, phone number, etc.). Building in immediate success encourages the student to continue learning. Use small and familiar motivational items for practice: jokes, Bible verses, quote, and so on.

Use a fabricated braille cell to provide examples. Try a muffin tin with tennis balls, an egg carton, a pegboard, or an APH Swing Cell. Teach anticipation. Tell students not to get stuck on a word?skip it and use context cues and letter clues. Use playing cards, Bingo sets, and other games that have been adapted with braille for motivation. Students can continue to enjoy these activities with family and friends, and practice their braille skills at the same time. Motivate students. Cribbage can be motivating, especially since it is a social activity and only uses 4x6 cards. This is a good way to teach numbers. Use braille magazines in areas of high interest (e.g., cooking, sports, etc). Use a Braille 'n Speak and other equipment that has speech to reinforce braille skills. Use flash cards. Cut off a corner for easy orientation. Cut print letters out of heavy paper or cardboard, or use WikkiStix. Then glue them onto the cards. Braille letters paper or cardboard, or use WikkiStix. Then glue them onto the cards. Braille letters can be made with puff paint, large or small circles made of felt or Velcro, or with a Dymolabeler. Use visual

dots to reinforce concepts with learners who can use available vision. Concentrate on the meaning of symbols by making them relevant to daily activities for people with low literacy skills. Make lesson and practice schedules flexible and suited to the needs of individual students (e.g., some may be more alert in the morning, while others may find it easier to learn later in the day). Contract practice time before you start the lesson so that both you and your student are clear on what is to be accomplished between classes. For some students, you may want to suggest several short practice sessions per day rather than one long one. Tape the lessons to help the student remember what he/she has learned. This can also facilitate practicing between lessons. Make homework practical. Assign productive activities that will be functional, as well as good for practicing braille skills. Ask students to try: labelling clothes, canned goods, tapes, CDs, and so on?compiling addresses and family birthdays?labelling medicines and writing out medical information?writing out recipes and directions?making notes from instructions for using adapted equipment?making shopping lists?anddeveloping organizational techniques for home and workplace (e.g., personal files, calendar, etc.). Help clients by assisting in setting up an address book or recipe file using braille so they can add to it as their skills growEncourage family members to participate in reinforcing your students who are developing braille skills by playing games with braille cards, labelling grocery cans after shopping in the grocery store, or keeping track of the weekly shopping list in braille. Give your students lots of support and encouragement.

Research has shown that a few good Braille readers use only one hand, but the vast majority use two hands. The following are typical of the majority of good Braille readers:1. the student exhibits few regressive hand movements (either vertically or horizontally). 2. Uses very little pressure when touching the Braille dots.3. Utilizes a two handed reading technique in which the left hand locates the beginning of the next line, while the right hand finishes reading the previous line.4. uses at least four fingers at all times.5. Demonstrates the ability to scan efficiently when reading both a vertical and horizontal format.6. Demonstrates the ability to read letters accurately without confusing letters1 which are mirror images of other letters.

If your student has a heavy touch tries the following: Place a piece of paper on the table, asks the student to pass his hands over the paper so lightly as not to move the paper. Another suggestion would be to place plastic discs or checkers on raised line graph paper and ask the student to pass his hands over the objects so lightly as not to move the objects across the lines on the graph paper. Create your own games which would encourage a light touch. Encourage your student to touch the dots lightly (tickle the

dots). Try to help him develop a smooth movement of the hands from left to right and try to avoid having the student stop as he moves across the page. Suggest that your student keep all fingers in contact with the paper. It should be remembered however, that some Braille readers have been known to use unorthodox hand positions efficiently. If your student displays dominant one handed reading, it may take along time to develop the coordination and motivation required for two handed reading. Continue to instruct your student in the two handed method, but respect his right to experiment with other methods when he is working independently.

It is important that the school furniture fit the student. The student's elbows should be on the same plane, or perhaps a little higher than the top of the desk or table being used. If the furniture cannot be adjusted, let the student sit on several books (not Braille, of course). Some beginning readers have little strength in their hands or arms. As a result, they may tire quickly. If this is a problem you might try the following activities.

1. Have the student punch holes all the way around a heavy piece of construction paper using a single hole punch.
2. Have the student lace from one hole to another, all the way around the border using medium weight yarn. The resulting product may be used as a placemat during snack time, or folded in the middle and used as a cover for completed work.
3. As a reinforce for work completed satisfactorily let the student use a nutcracker to crack nuts, after which he may eat them. Start with peanuts first.
4. Cut strips of heavy construction paper (about 1/2" wide). Have the student cut across the strips with scissors to make pieces of paper. The small pieces may be pasted down to decorate the folders.
5. A box containing several dozen nuts and bolts of the same size may be given to the student to put together.

Clean warm hands are important for rapid and correct Braille reading. Be certain that your student washes his hands, rinses them thoroughly, and uses a little hand lotion before beginning to read. An old hair dryer is useful on cold days to warm hands before reading. Place the student's worksheets one at a time on top of a rubber pad. This prevents the paper from slipping around the desk and thereby, promotes a light reading touch. This is a consumable program. That is, an entire new set of Braille work sheets should be provided for each student who receives instruction through this method. The pages

should be taken out of the binders and used according to the instructions in the teacher's manual. The use of the pushpins will deface the pages, but will strengthen the arm muscles and heighten the reading performance of the student. After use, the pages should be given to the students to take home. Sighted children take home completed pages every day and proudly boast to friends and family about their marvellous achievements. Visually impaired students need the same kind of reinforcement and encouragement if they are to maintain enthusiasm toward reading. Teachers will doubtlessly be tempted to keep the entire program and use it with other students. Braille becomes rubbed down easily when used with beginners. Every student deserves an equal opportunity.

Many adults think of Braille letters as reversible pairs. i.e., (w and r) etc. Never, teach a child that there are reversible pairs of letters in Braille. This requires that the student perform a double mental process when he applies his knowledge of letters to academic assignments. Remember that one of your greatest strengths is your ability to reinforce correct reading techniques. Reinforcing incorrect techniques only shows the student what is "bad", but offers no example of the desired behaviour and thereby, provides no substitute for the "bad" techniques. Reinforcing correct techniques provides an example of the goal behaviour and increases the probability that the desired behaviour will recur more frequently. Good reading skills are only mastered after years of practice.

2.6 Techniques of Teaching Print to Children with Low Vision

Approximately 90% of individuals with visual impairments have functional or low vision?Just 10% are functionally blind. However, students with low vision are often an overlooked majority in the population of children who are visually impaired. Difficulties of students with low vision are often not as apparent as they are for students who are blind. Nonetheless, students with low vision require direct instruction in literacy, visual efficiency, accessing the core curriculum, compensatory skills and more. The following educational interventions are beneficial to students in any school setting:

Teacher of Students with Visual Impairments

Every child who meets the criteria of visual impairment in his/her state is eligible to receive services from a certified teacher of students with visual impairments (TVI). A TVI is a teacher who specializes in working with students who are visually impaired. Most often, when a new student with a visual impairment enters a school system, it is the TVI who is responsible for assessing the student, determining and aiding in adaptations and modifications, as well as creating individualized education programs

(IEPs). If the situation does not permit the TVI to perform all necessary specialized instruction with a student, the TVI will generally oversee or direct the instructional process.

Accessing the Visual Environment

One of the principal concerns for students with low vision is their ability to access the visual environment. Just as students who are blind have difficulty with environmental cues such as facial expressions and eye contact, so too do students with low vision. One way for students to access the visual environment is through optical devices. Optical devices include magnifiers, microscopes, and tele-microscopes for accessing near information and monocular telescopes and bioptic lenses for accessing distance information. Near devices aid a child in viewing regular print materials, non-textbook materials such as baseball cards, and menus. Distance devices are used for viewing information that is beyond arms reach, such as the chalkboard, menus in fast food restaurants, or sporting events. Because every child's vision is different, a certified professional should always prescribe optical devices. Every child with low vision should receive a clinical low vision evaluation from an optometrist or ophthalmologist who specializes in such services.

Access to information

One of the most important academic areas related to accessing the visual environment is accessing information through print. While some students with low vision require their texts to be transcribed into braille, many are able to access regular or large print. Large print books and papers can be created through modern copy machines but such copies are often of poor quality. Many states have centres and agencies that can be contracted to create required large print and braille materials. For students who can access regular print through optical devices, instruction beyond the introduction of the optical device is required to make sure the student uses it effectively. Lengthy texts such as novels mightalso be presented on audiotape. However, it is recommended that audiotape materials not be stressed until later grades to ensure that students develop the requisite basic literacy skills. Audiotapes are often used more by students in university who must access large amounts of information from a variety of sources. Many technology solutions exist for accessing information via computer. Progress isbeing made on the ability to download academic texts from publishers directly to student's computers, bypassing the print medium. Text on computer can be output through speech,

large print, or braille, depends on the software and hardware available. Some students might also benefit from any combination of braille, large print, regular print, optical devices, and technology.

Access to core curriculum

Students with low vision are often at a disadvantage when presented with information in regular classrooms. If a student has difficulty seeing material at a distance, writing on chalkboards will be hard to discern. A distance optical device, preferential seating, and hand-outs containing pertinent information are all ways that the information can be more easily accessed by the student. Curriculum areas such as the sciences that require hands on activity and interaction with materials can also present a challenge to students with low vision. Specialized instruments with larger numbers or inventive ways of using existing materials can overcome barriers. The use of groups to complete assignments is also useful for providing a support not only for students with visual impairments but for all students. Above all, teachers should encourage students to indicate when they are having difficulty in accessing information, completing a task, or understanding a process or skill. In most cases, between the student and the teacher for students with visual impairments and the classroom teacher a solution for any barrier will be discovered.

Psychosocial Issue

Another issue relating to low vision is the psychosocial impact of a visual impairment. Children growing up with a visual impairment can experience many negative consequences including: feeling like they look different, either because they cannot visually verify how others look or because they wear glasses or use optical devices, feeling like an outsider because they cannot take part fully in activities, feeling less than capable because they do not understand visual concepts fully, feeling clumsy because they drop things or bump into objects. All of these consequences can have the effect of lowering self-esteem. It is important

those students identify themselves not by their visual impairment but see their visual impairment as one aspect of who they are. Intervention may be necessary so that a student can build successful experiences and find activities in which they excel. Unique educational interventions are essential for students with low vision in order to ensure successful outcomes in the school setting.

For educational purposes, the low vision student is typically one who reads print and has a corrected visual acuity of 20/70 or worse in the better eye. Most low vision students

have very poor distance vision, so this makes it difficult for them to see the chalkboard or to gather detailed information from filmstrips, charts, or overhead screens. These students can usually read print and gain information from pictures, charts, and graphs when the material is up close. Each low vision student's needs are unique, but the following suggestions may be helpful when working with a low vision student in the classroom.

Some General Facts Regarding Students with Low Vision:

- Using the eyes does not injure or harm them. Encourage the student to use his/her eyes since greater efficiency can only be developed through the use of the eyes for visual tasks unless a doctor has indicated otherwise.
- The use of glasses cannot help improve visual acuity for all eye conditions. Glasses may be worn to reduce glare and help with fatigue. Some students can read ordinary type with ease?others may require large print, a hand-held magnifier, or a closed circuit TV. The visually impaired child should be able to participate in most recreational activities except for those that require good visual acuity.
- Eyes cannot be "strained" but may tire quickly. An activity that allows the student to change focus isoften helpful and appreciated.
- Holding materials close to the eyes will not harm them. Allow the student to position materials at adistance he/she chooses.
- Check the student's folder for the modification sheet. This will tell the classroom teacher what specific modifications need to be made in the classroom. Remember, these modifications are REQUIRED, since they are written in the student's Individualized Education Plan (IEP). Contact the teacher of the visually impaired if have questions or need suggestions for particular room.

Suggestions for the Classroom Teacher:

- Preferential seating is often necessary for a student with low vision.
- Let the student select a seat where he/she sees best
- Seat a student as close to the board as practical
- Reduce glare from windows and lights, as much as possible
- Seat the student with his/her back to windows
- Read the student's Functional Vision Evaluation to find out if this student can copy materials writtenon the board or overhead projector.

- Purple dittos or "fuzzy" Xerox copies should not be used with this student. Clear contrast between the print and the background will help the student be more successful.
- Black print on white paper is usually best. If other modifications are required they should be contained in the list of modifications handed out at the beginning of the semester and in his/her Functional Vision Evaluation of the Special Education Folder.
- Contrast, print style, and spacing of letters can be more important than print size.
- Low vision students may require more time to complete assignment.
- Low vision students are usually slow readers because of the visual impairment.
- Standardized tests that require separate answer sheets may be especially difficult for a student to use. Check modifications to see what procedure to use.
- Word games, puzzles and graphs may be inappropriate for a low vision student. Check with the VI teacher if unsure.
- Give the student the grade he/she earns. Donating a grade to a student really hinders-not helps the student's learning.
- Storing and using large print materials may be difficult for the student to manage in a classroom.

Help the student find a place for books and supplies. Also, a locker may not be accessible if it has a combination lock.

Understanding A Low Vision Student:

- The emotional needs of a low vision student are like those of any other. He/She wants to be liked byteachers and peers. They do not want to be different.
- Schedule a time for a private meeting with the child. This will allow the student to tell you aboutseating preferences, lighting, and modifications that are helpful.
- Have the student explain his/her visual problem to you.
- Try not to call attention to the child's eye problem in front of the class.
- Always use the student's name when addressing him/her.
- The rules of discipline should be the same for a low vision student, as for any other, unless the IEP states otherwise.

- So much of communication is non-verbal. Often a student with low vision is unable to recognize theexpression on someone's face or figure out what has happened in a situation that is nonverbal. It is helpful if the teacher privately explains the situation to the student with low vision.
- Be aware of the student's frustration level since so much of learning and school is visual. It is easy fora student with poor acuity to become frustrated.
- If notice the student has food or ink on his face or clothes, discretely tell them.

A Functional Vision Assessment and Learning Media Assessment should bedone for each student, and these generally offer specific suggestions for optimalvisual functioning, including magnification, lighting, font size, colour preference,and ideal environmental conditions. The individual needs of a student willdepend on factors such as his or her eye condition, age, learning style, andadditional learning challenges.

Strategies for Reading Print

There are a variety of ways in which students with low vision can access print,and many students will use different strategies in different situations. For example, out in the community, they may prefer to usespot magnification to check menus or prices, but in school they may prefer to use text books in large print. A CCTV (CloseCircuitTelevision) or other form of video magnification may be the preferred way to view graphics or a text in school that is notavailable in large print. It is often necessary for the student to try different tools in various circumstances in order to be part ofthe decisionmakingprocess about what works best.SETBC(Special Education Technology British Columbia), a provincial resource program of the BC Ministry of Education,outlines strategies for paper materials, as well as e-text.

Instructional strategies for paper materials include:

1. Provide regular print
2. Use handheldmagnification with regular text
3. Enlarge Small Amounts of Text, Pictures, Diagrams, Charts on Photocopier
4. Provide Large Print Version of the Text
5. Use StandaloneVideo Magnification
6. Use Video Magnification with Computer Integration

Additional strategies for e-text include:

1. Change Appearance of Text and/or Background

2. Magnify Text and/or Computer Screen
3. Provide E-textwith Tracking Support or Highlighting
4. Provide E-text

Environmental Factors

The Functional Vision Assessment will include specific strategies and suggestions for the individual student, based upon his orher visual condition, the type of educational program, the child's age, and other challenges the student may face. The needs ofeach student will be different depending on the eye condition, but in general it is necessary to consider the following:

1. Glare
2. Contrast
3. Lighting
4. Positioning
5. Reducing Visual Clutter
6. Visual Cues
7. Self-Advocacy

Font

When determining which font to use, it is important to look at both the size and the type of font.

APHont: A Font for Low Vision

(American Printing House for the Blind) APHont was developed by APH specifically for low vision readers. APHont embodies characteristicsthat have been shown to enhance reading speed, comprehension, and comfort for large print users.

2.7 Braille Aids and Devices, Optical Devices for Print Reading and Writing Braille Aids and Devices

Students who read braille also usually write in braille, using a variety of lowor high-tech devices. If your child writes in braille on a computer or personal digital assistant (PDA), the teacher of students with visual impairments can use braille translation software, which converts the text and prints it out for you, the teacher, or anyone else

who reads print.There are a number of different methods for personal braille writing that canresult in tactile output. The focus here is on the process of writing braille whichassumes, of course, that one either knows or is copying correct braille in thefirst place. (Note that while writing braille can be used for transcribing fromprint to braille, it is not the same as transcribing. Different writing methods have different advantages and many brail lists end upusing different ones depending on their purpose. On this page I've made adistinction between mechanical and electronic devices. Another distinction,which is more significant to braille literacy, is between brailler and note-takers.Brailler is the name generally given to a device with the capability for directoutput of embossed braille whereas a note-taker is a device that has digitalstorage capabilities and, possibly, direct output via a speech synthesizer or refreshable braille display (RBD).Tactile braille can be produced by sending an electronic braille file produced using a note-taker or personal computer to an embosser (or RBD) just as inkprint can be produced by sending an electronic print file to an inkjet printer. (However, even a low end embosser is considerably more expensive than an ordinary printer.)Writing and braille literacy The writing devices most significant for early braille literacy are those that-like pencil and paper-couple writing and reading by tying the writing process directly to the production of hard copy output. These devices include the slate and stylus as well as mechanical and electronic brailler. Attempting to achieve braille literacy by restricting oneself to the use of a speech enabled braille note-taker would be rather like attempting print literacy with a computer keyboard and a word processor with synthetic speech output. Braille writing devices like the slate and stylus and brailler are also uniquely important for blind children because they allow a blind child to develop the twodimensionalor planar concepts that a sighted child picks up automatically from seeing a page. The child develops an understanding of writing on a page, page size, formatting, alignment, information on a page, etc. that is not possible with virtual writing.On the basis of this the braille devices can be further classified into the following broad six categories:

1.1 Braille Duplicators and Writers

1.2Writing Devices

1.3 Braille Paper

1.4 Talking Books and Tape Recorders

1.5 Reading Machines

1.6 Braille Computers

1.1 Braille Duplicators and Writers

- *Thermoform Machine:* 'Endotherm' is an indigenous semi-automatic Braille duplicating machine. It is useful for taking out multiple copies of the Braille matter on the Endotherm (or Braillon) sheets from the master generally prepared onthe Braille paper. This machine operates on the principle ofvacuum and high temperature.
- *Braille Writers:* It is an upward writing machine forwriting on one side of the paper, enabling the Braille to beread as it is written. This machine can be compared to a normaltype writer with a major difference that it has only nine keys,three for paper setting and six for embossing; the brailler embossescombinations of six dots in a Braille cell.The Braille machine is made of metal with an enamel finish,with plastic key-tops and adjustable margin stops. The paperis roller-fed and line spacing is achieved by pressing a specialkey.

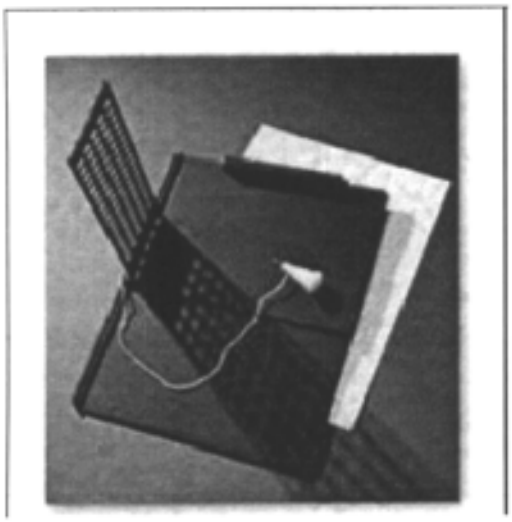
1.2 Writing Devices

- *Peg Slate:* This paperless device helps to teach beginning users of the braille slate. A frame is mounted with pegs that represent the braille dots in 10 braille cells. A finger is used to push the pegs down. The frame is then flipped over to read the braille message. Made of black plastic with white plastic pegs for high contrast. Instructions in print and braille.

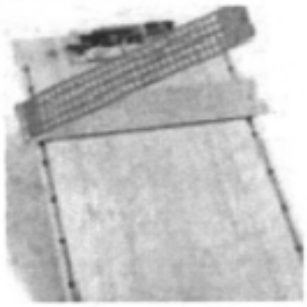
- *Slate and Stylus:* The slate and stylus are inexpensive, portable tools used to write braille-just the way paperand pencil are used for writing print. The most lowtechmethod of writing braille, comparable to writing print withpen or pencil, is to emboss each braille dot using a stylus and slate. Thismethod ordinarily requires writing from righttoleft.(One can also write fromlefttorightby writing upside down but this is generally more errorprone.)Slates are made of two flat pieces of metal or plastic heldtogether by a hinge at one end. The slate opens up to hold paper. The top part has rows ofopenings that are the same shape and size as a braille cell.

The back part has rows ofindentations in the size and shape of braille cells. The stylus is a pointed piece of metal with aplastic or wooden handle. The stylus is used to punch or emboss the braille dots onto thepaper held in the slate. The indentations in the slate prevent the stylus from punching a hole inthe paper when the dots are embossed. Slates and styluses come in many shapes and sizes.

Braille Slate.



- *Interline Braille Frame:* is used for writing standardcharacter interline Braille. The frame comprises a woodenboard, a metal guide, a reversible paper clamp and astylus. The clamp fits at the top of the board and hasa small swivel stud for locking and holding Braillepaper. When one side of the paper has been Brailled,the clamp with the paper still held, is turned over as a unit. The binding margin is made automatically.

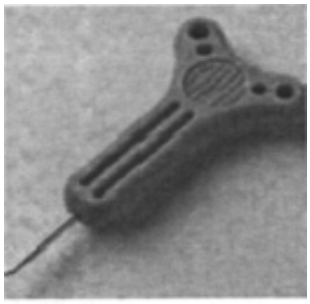


Slates

- *Taylor Postcard Frame:* It is used for writing smallcharacter Braille on one side of the paper. The cornerpins are arranged in such a way that the Braille canbe read

without removing the paper from the frame;when the top section is lifted, the paper remains attachedto it.

- *Pocket Braille Frame:* The four-line pocket Brailleframe produces small character Braille on one sideof the Braille paper. This is specially used for makingsmall and occasional notes.
- *Styli:* These are produced with handles of variousshapes to suit individual needs. The points of all styli are made of stainless steel and the handles are of polishedhardwood or synthetic material.



Styluses

- *Braille Kit:* is a rexine coated or a decorative wood box and contains the following items:
  - ✓ Braille Writing Frame
  - ✓ Braille Writing Pocket Frame
  - ✓ Rubber Sheet
  - ✓ Foot Ruler
  - ✓ Compass Set
  - ✓ Two Stylii
  - ✓ Folding Stick or Abacus and
  - ✓ Signature Guide.
- *Pragnya Sketching Device:* It enables a visually impaired child as wellas a low vision child to create simple sketches anddiagrams out of a thread. It is based on principle ofusing acrylic thread as "writing ink" and nylon fabricfastener strips as a "writing slate".

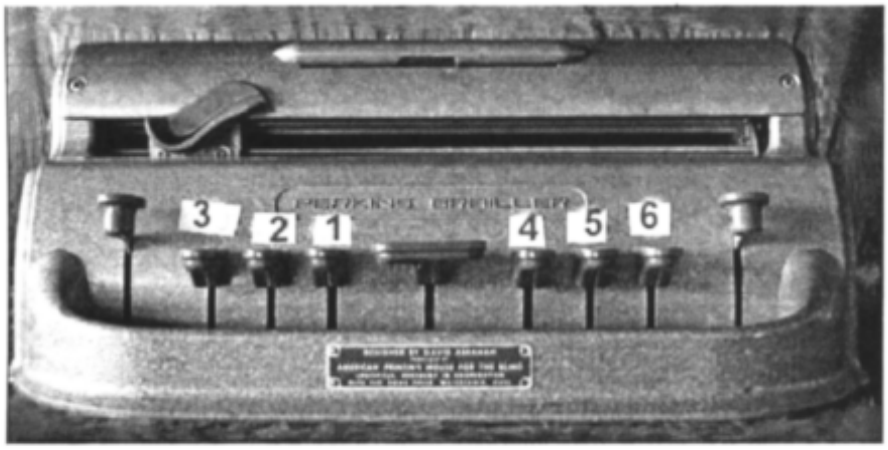
- *Product Design:* Acrylic thread of a contrast colourthat works as refill is passed through the empty bodyof an open ended ball pen, keeping the other end attachedto bobbin spool. The thread is wound on the spoolthat rotates about a wire axle, attached to the upperpart of the ball pen. The nylon fastener stripes arestitched together width wise and pasted on the woodenboard to make 1'x1' area.
- *Operation:* The child holds the pen as any other normalpen for a sighted person and makes contact of thethread over the slate surface. Keeping continuous touchwith the surface, the child glides the pen in differentdirections and the thread delivery is maintained smoothlythrough the rotating spool. A line can be terminated by snapping off the thread by usinga sharp stationary blade. A continuous running thread canalso make different shapes like circles, rectangles, curved lines,letters, graphic symbols, maps etc. The drawn picture can beeasily "erased" by simply pulling away the thread from theslate surface and rewinding it again over the spool. The childcan immediately feel the shape by moving fingers over thethread surface and add, correct or erase the line quickly. Itenables interaction of the child with the writing media andencourages drawing of various objects. A low vision childmay see the shapes by holding the board close to eyes.

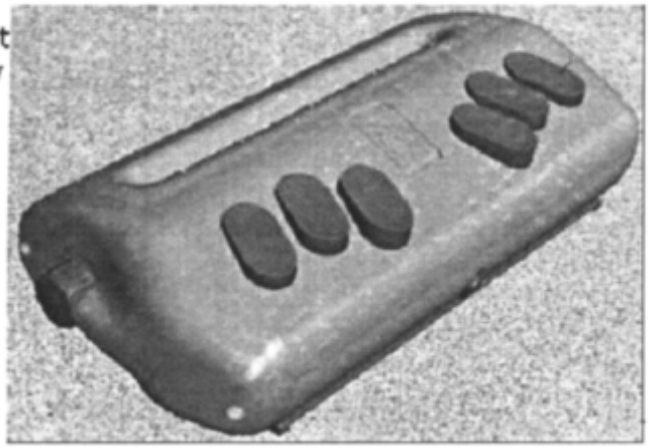
Advantages

(i) Self operated excellent user friendly device
(ii) Serves as useful educational media for the teachingpersonnel
(iii) Operates on concept of "draw as you think" which is better as compared to tactile devices where "embossing" is carried out on the reverse side of the paper, metal sheet etc. to get mirror image of the actual profile.
(iv) Simple design using readily available components.
(v) Easy to manufacture, even in the rural areas.
(vi) Low cost and affordable.
(vii) No training manual required as it is easy to operate.

- *Braillewriters:* Mechanical embossers that support sixkeyentry are usually called brailler?Mechanical braillewriters work a little bit like typewriters. They have six keys-one for each dotin a braille cell-a space bar, a backspace key, a carriage return, and a line feed key.Braillewriters use heavyweight paper. The most popular braillewriter is the Perkins braillewriter,made by the Perkins School for the Blind in Massachusetts. One high-tech device devoted to writing in print is the

Mountbatten Brailler. The MountbattenBrailler combines a mechanical braillewriter and computer in one device. It has the same keysas a braillewriter, but the keys do not require as much pressure to operate. As your child usesthe Mountbatten, she can feel the braille paper to see what she has written. The Mountbattenhas computer technology built into it so that files can be stored and retrieved at a later time, andthe device can also "speak" aloud what is Brailled. The Mountbatten is typically used withyounger children or with children who have additional disabilities and limited hand strength.A new design for a mechanical sixkeybrailler has recently been developed byan Australian researcher after many years of effort. This new device is known asa JotADotand is currently expected to be commercially available in January2003.it looks much like an electronic braille note-taker.





Front view of Jot-A-Dot.

1.3 Braille Paper:The standard size of Braille paper is 22"X28" and weight 8.6 kg. per gross.

1.4 Talking Books and Tape Recorders

- *Talking Books:* The material recorded on cassettes has emerged to be the most popular mode of imparting education to visually impaired persons. As Braille books are very heavy and many newly blind persons are not able to learn Braille easily, talking books are emerging to be the most viable alternative.For listening to the talking books, the conventional cassette players with the compact cassettes with a playing time of either 60 or 90 minutes are generally used.
- *Digital Tapeless Recorder:* The blind peoplecan use it alone without someone's help. It has a specialvoice prompt for the blind which includes a voice guide, easy research mode, volume adjustment and option for use of earphone.

1.5 Reading Machines

- *Kurzweil Reading Machine:* A portable opticalscanner that reads type-set or type-written text andturns it into speech. Its features include:
  (i) a large memory to provide improved processing of incoming text;
  (ii) an automatic contrast control;
  (iii) tools for format analysis;
  (iv) multi-lingual capabilityfor textinany of theseverbal languages;
  (v) communication interface which allows itto serve as an input or output device with otherdata or text processing equipment.
- *Optacon:* is a book-sized electronic device witha movable camera, the size of a pocket knife and atactile screen the size of a fingertip which presents atactile image on an array of vibratory pins. The readerpasses the camera over printed material with his righthand and his left index finger feels in vibratory reliefthe image the camera sees. The manufacturer claimsthat an experienced Optacon user reads up to 90 wordsper minute, about half his Braille reading speed.

1.6 Braille Computers

- *Braille Window:* is the Braille-display for connectionto all sort of IBM compatible personal computers.

- *Keytone:* is a portable information handling, wordprocessorand computer access device that talks toits user.
- *EHG-BW/ 2-PIEZO:* is a monitor and key boardwhich provides output in raised dots and can beconveniently used by the visually impaired persons.
- *Galaxy Piezo:* is a special computer for the visuallyimpaired and it gives output in embossed dots.
- *Galaxy speech:* is a special computer for the visuallyimpaired with speech output
- *Braille'n Speak:* is pocket size note taker. It canbe used for word processing, as a calculator, as a clockand a calendar. It can store 200 pages of Braille text.
- *Versa-Braille II+:* is recognized as a convenientBraille operating system. It can be used for editing,programming and word processing. The input is fromsix keys and output is in the form of raised dots. It isa product of Tele-sensory Systems Inc.
- *Index Braille:* Index Braille is a Sweden basedprivately owned business with a mission devoted todevelopment and production of Braille Embosser.The company has introduced Double-sided BrailleEmbosser, popularly known as "Index Everest". It hasa high speed Interpoint Braille Embosser which usesnormal cut sheet. Over the years, the Everest has provedto be one of the most reliable Embossers on the market.
- *Speech Synthesizers:* A speech access system convertstext from a computer into spoken words. It is the hardwaredevice that does the speaking in a speech access system.

  Important features of synthesizers include

(i) voice quality

(ii) speed at which text is converted to speech

(iii) memory requirements, and

(iv) compatibility of the synthesizer to the computer (Mac or PC) and the number of languages available.

a. *External device:* It connects to a computer externally and comes with a speaker and a socket for headphones and can be moved around to different machines.

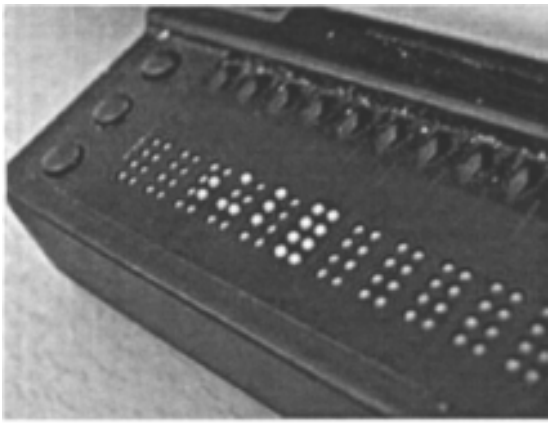
b. *Internal device:* It comes as a chip or a circuit board that must be inserted inside the computer with sockets for speakers and headphones. It can be moved around to different machines, it works faster than an external device.

c. *Soft-ware based device:* It is loaded as software on a compatible computer and it gives speech out through the sound system of the computer itself. The Microsoft Voice is useful for reading the documents and for operating window commands with the help of multimedia kit.

d. *Language software:* The Indian Institute of Technology (IIT) Chennai has developed Braille Software as well as Language Software which enables a visually impaired person to access computers for Braille as well as language outputs in all the Indian languages. It is also providing the software completely free of cost to the users and the institutions. It has also developed a system of keyboard mapping and operations in Indian languages and instruction manual for use of the special version of the ITI Multilingual Software.

e. *Refreshable braille display:* A refreshable braille display or braille terminal is an electromechanical device for displaying braille characters, usually by means of round tipped pins raised through holes in a flat surface. Blind computer users who cannot use a computer monitor can use it to read text output. Speech synthesizers are also commonly used for the same task, and a blind user may switch between the two systems or use both at the same time depending on circumstances. Deaf blind computer users may also use refreshable braille displays. The base of a refreshable braille display is a pure braille keyboard. There, the input is performed by two sets of three keys plus a space bar (as in the Perkins Brailler), while output is via a refreshable braille display consisting of a row of electromechanical character cells, each of which can raise or lower a combination of six (or in some cases, eight) round tipped pins. Other variants exist that use a conventional QWERTY keyboard for input and braille pins for output, as well as inputonlyand outputonlydevices.On some models the position of the cursor is represented by vibrating the dots, and some models have a switch associated with each cell to move the cursor to that cell directly. The mechanism which raises the dots uses the peso effect of some crystals, whereby they expand when a voltage is applied to them. Such a crystal is connected to a lever, which in turn raises the dot. There has to be a crystal for each dot of the display, i.e. eight per character. Because of the complexity of producing a reliable display that will cope with

daily wear and tear, these displays are expensive. Usually, only 40 or 80 braille cells are displayed. Models with between 18 and 40 cells exist in some note-taker devices. The software that controls the display is called a screen reader. It gathers the content of the screen from the operating system converts it into braille characters and sends it to the display. Screen readers for graphical operating systems are especially complex, because graphical elements like windows or slide bars have to be interpreted and described in text form. Modern operating systems usually have an Application Programming Interface to help screen readers obtain this information, such as UI Automation (UIA) for Microsoft Windows, VoiceOver for OS X and iOS, and AT-SPI for GNOME.



Refreshable braille display

Optical Devices for Print Reading and Writing

An estimated 1 in 250 children are visually impaired as a result of eye disease. Some of these children have nearly normal vision, some are totally blind, but the majority fall into a broad range between these two points. Children are said to have 'low vision' or 'partial sight' when they have: (a) a corrected visual acuity in the better eye of <6/18 to 'perception of light' (or a visual field of less than 10 degrees)?and (b) the ability to use their residual vision to orientate themselves or to perform tasks. They are identified at eye clinics, school screening programmes, community based rehabilitation (CBR) programmes or special schools for the visually impaired. The education, employment prospects, independence and quality of life of a child with low vision can all be improved by enhancing vision. Optical devices (spectacles, magnifiers and telescopes) play a key role in achieving that approximately half of children who have low vision show an

improvement in distance and/or near visual acuity with the help ofspectacles, a magnifier or both. The majority of magnifiers are prescribed for children who have a visual acuity inthe better eye of <6/60 to 1/60.The management of children with low vision requires cooperation between the child, his/her family and eye care educational and social personnel. There are five stages in the management of children with low vision. Eye care personnel are primarily involved in the assessment and monitoring stages which include: visual acuity measurement (distance and near)?eye examination, diagnosis and prognosis?surgical and/or medical treatment?andthe provision of optical services.Sight is a key source of stimulus during a child'sdevelopment, and so children with low vision should be motivated to make the maximum use of their residual vision. This can be done using both non-optical and optical methods.

Large Print

Standard print is usually in a 10-12 point size. While large print was often thought of as 18-24 point, today computers and printers can produce text in any size the user desires and in a variety of fonts. Most users of large print prefer a sans serif font such as Arial or Verdana which do not have embellishments on letters that can cause visual clutter and confusion like those found on Times New Roman and other serif fonts.

Non-optical Devices

Tools that do not optically magnify or change the image being viewed.

Lighting options-appropriate lighting conditions can greatly improve one's ability to read printed information.

Natural-natural lighting is a great source of lighting for reading especially when it can be controlled with blinds, shades, or curtains.

Book/reading stands-allows the reader to place reading materials at a comfortable position for reading and are available in portable, desktop and floor models.

Light filtration systems-better known as sunglasses or colour filters, these devices can be very useful especially in brightly lit environments.

Enhancing Vision Using Non-Optical Methods

- Move CLOSER, e.g., use an angled reading desk.
- Use COLOUR to show objects more clearly.
- Use CONTRAST, e.g., eat white rice off a coloured plate.

- Pay attention to LIGHTING, e.g., sit near a window in class.
- Make objects LARGER, e.g., write with larger letters.
- Use a LINEGUIDE such as a ruler when reading and writing.
- Optical Devices.

These devices magnify the image of the material being viewed and should beprescribed by an eye care professional specializing in low vision. The most widely usedoptical devices are spectacles or eye glasses and contact lenses. When these do notprovide enough magnification users can turn to handheldor stand magnifiers.

Enhancing Vision Using Optical Devices

Optical devices play a key role in enhancing vision and reducing visual disability in children with low vision. They include: standard prescription spectacles?optical low vision devices for distance vision?and optical low vision devices for near vision.

a. Standard prescription spectacles: It is important to ensure that children with low vision are refracted and provided with any spectacles they require. Work in West Africa indicates that at least 30% of children with lowvision needs spectacles. Refraction should always be carried out before a magnification assessment.

b. Optical low vision devices for distance vision: Distance vision magnification requires a telescopic lens system. Telescopes are expensive and have limited applications. It is often more practical for a child to sit near the front of class to see the backboard than to use a telescope.

c. Optical low vision devices for near vision: An optical low vision device for near vision uses one or more lenses placed between the eye and an object to alter the retinal image size of the object. This makes the object larger and easier to see. The minimum dioptric power of a device used in this way is +4.00D. These devices are inexpensive and have a wide range of applications. They play a vital role in giving children with low vision access to print and illustrations in standard textbooks.

Prescribing Magnifiers for Near Vision

The power of magnifier prescribed for a child is determined by the child'svisual requirements, recorded near visual acuity and measured working distance. They are prescribed, starting with low power magnifiers and then progressing to higher powers. The higher the power, the smaller the area of visual field seen through the magnifier.More

words in a sentence can be viewed through a +10D magnifier than through a +20D magnifier. The power of the magnifier prescribed should be the maximum power which enables the child to perform the task required, but not above requirements so that maximum visual field is maintained. Moving the eye closer to the lens of a handheld or stand magnifier also increases the field of view. In West Africa 71% of magnifiers prescribed were low power magnifiers (under +25D). These were prescribed more frequently for those with a visual acuity of 3/60 or better. High power magnifiers (over +25D) were prescribed in 29% of cases and were mainly prescribed for those with a visual acuity of less than 3/60. To determine the appropriate type of magnifier it is important to assess the child's personality, coordination, motivation and task aims. The same magnification can be provided using different mounting systems and working distances. Optical devices for near vision include: handheld magnifiers (illuminated or non-illuminated) ?standmagnifiers (illuminated or non-illuminated) ?spectacle mounted magnifiers (e.g., high plus spectacle lenses, Hyperocular lenses)?and spectacle mounted telescopic units. The most widely available optical low vision devices for near vision are non-illuminated handheld magnifiers, non-illuminated stand magnifiers, and high plus spectacle lenses. There are many benefits in providing magnifiers to children with low vision. The magnifiers encourage children to use their low vision to the full, thereby increasing visual stimulus and helping the children'sdevelopment. Themagnifiers promote literacy by increasing access to printed material for educational purposes and private reading. It is also more cost effective to provide children with optical devices enabling them to use standard books than to provide large print books which are expensive and heavy to carry. There are some limitations in providing magnifiers. Using a magnifier may make a child's visual disability more noticeable causing the child to feel different from other children. The human and financial resources available to provide the magnifiers may be limited. The child needs to be taught carefully how to use the magnifier as the restricted field of view can prevent a child from perceiving the overall pattern of words or sentences on a page.

Optical devices are of two kinds near and distance. Near devices are designed for magnifying close objects and print. Distance devices are for magnifying things in the distance (from about 3 metres to far away). Check that each person has been examined to see if spectacles are needed to correct or improve vision before recommending low vision devices. It is necessary to find out what people are unable to see and what they want to be able to see well. It might be a very specific task such as reading labels on food packets. The nature of the task will also affect the type of low vision device which

is suitable. Before selecting a low vision device, consider:

- the size of objects to be viewed
- the possible viewing distance from the object
- the length of time needed for the activity
- whether one or both hands are needed for the activity.
- Some people use both near and distance devices, others use only one type.

Optical devices for near tasks

Magnifiers for close tasks are designed to be either held in the hand (handheld magnifier), to be placed on a book or over a small object (stand magnifier) or mounted in spectacle frames. With magnifiers for near tasks, objects or print look larger and detail can be seen. A standmagnifier is a strong lens which is mounted in a plastic stand. A stand magnifier is usuallyeasier than a hand held magnifier for a child to use. It can be moved along while still resting ona page of a book. With spectacle magnifiers, both hands are free to work on tasks.

Magnifiers for near tasks can be used for:

- reading a book or a newspaper
- reading labels, signs or prices in shops
- using tools, for example measuring
- threading a needle
- identifying money
- inspecting objects such as plants or insects

For reading, the magnifier has to be moved along each line of print, sometimes only showing a word or part of a word at a time. More words will be seen if the eye is held close to the magnifier. Reading is very slow at first. It is difficult to learn to use the magnifier properly a lot of practice is needed.

Optical devices for distance tasks

Magnifiers for distance are like small telescopes. They improve the ability to see distantobjects or people. Objects appear to be closer and it is hard to judge distances properly. It is best not to use telescopes while walking around.

Training to use optical devices

Encouragement and training are needed for people to use low vision devices well. The field of view or amount able to be seen through the magnifier or telescope is small. It takes practice to be able to find objects and then follow them or scan to find other objects. For distance tasks it is best to look in the general direction of an object without the device and then point or place the device in that direction to locate objects. It is easier to scan along horizontal objects such as roads or fences and up and down vertical objects such as trees or walls.

Training in the use of all magnifying devices is vital:

Magnifying glasses

Useful for when you need both hands free for the task e.g. School age children/adults who need to read and write a lot. Up to 20 Dioptres can be prescribed. Always consider if non-optical devices might help instead of or with magnification. For example, a writing stand is useful for relieving posture problems. Do not just give out magnifying glasses, if there is no one to train the person in its use. A person will often reject the device, because they do not know how to see better with it.

1. **Uses:**
   - for reading any material
   - writing
   - looking at objects from close range
2. **Advantages:**
   - range of magnification
   - both hands free
   - readily available- e.g. "cataract" glasses can beused as reading glasses
   - once used efficiently, can be used for long periods

3. **Disadvantages:**
    - exact reading distance important
    - Short reading distance with high powered lenses
    - more fragile than magnifiers (scratching, breaking)
    - good lighting needed at close distance
    - often a reading stand is beneficial to bringmaterial close

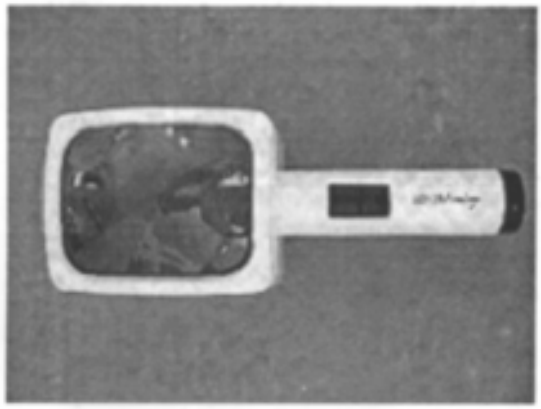
Hand Magnifiers

1. Uses
    - reading signs, labels, prices, books
    - identifying money
    - inspecting objects such as plants or insects
    - handwriting
2. Advantages:
    - easy to carry
    - available from low to high power
    - cheap to make or buy
    - can be used in any position or angle
    - allows light onto print or objects
3. Disadvantages:
    - difficult to keep appropriate distance
    - one hand occupied
    - difficult to hold steady

A hand-held lighted magnifier

Stand Magnifiers

1. Uses
    - Reading from a book or newspaper
    - Looking at a picture or diagram
2. Advantages
    - Has a fixed distance for ease of movement
    - Easy to use
    - Available from low to high power magnification
    - Allows light onto print if legs thin and tapered or clear
3. Disadvantages
    - Keeps one hand occupied
    - Not useful for activities like writing
    - Poor posture (bending above lens)
    - Causes fatigue



A stand magnifier with a handle

Telescopes

Telescopes can be used for looking at distant objects and activities such as: signs finding and recognising people or animals reading from a blackboard in school finding an entrance to a building watching games.

1. Uses
   - Reading from a blackboard from a distance >2 m
   - Looking at objects you cannot get close to, e.g. top of atree, animals
2. Advantages
   - Makes distant objects appear closer
   - Can be used in a classroom for blackboard reading oroutdoors
3. Disadvantages
   - Requires very good contrast
   - Not easy to copy what you have seen, takes time to:

   (i) Find text on blackboard and read

   (ii) Write notes down, possibly using other low vision device
   - Expensive to make
   - Not easy to use, requires extensive training

A hand-held telescope

A clip-on telescope

One type of spectacle-mounted telescopes

Bioptic telescopes in place on eyeglass lenses

Electronic Devices

Video Magnifiers or CCTVs -A video magnifier, also known as a closed circuit television system (CCTV), allows the user to view an enlarged image of text or pictures that are placed under a camera. The image is displayed on a monitor or television. There are video magnifying systems that are mounted on a permanent stand and are very powerful but not easily moved, as well as portable handheld systems that can travel with the user from location to location, to the store, and back home again. Regardless of which type of video magnifier is used, the concept is the same. The user places the material to be viewed under the camera and the camera projects the image onto the screen. The user can increase the size of the image and change the colour of the text and background. Some models connect to a computer, which allows the individual to use one monitor for both systems. The computer screen can be split, with half the screen showing the information from the computer and half showing the information under the video magnifier's camera. A video magnifier is also considered to be an optical device because

it changes the image of the material seen by the eye. Read more about video magnifiers and learn about specific models.

Scanners and Optical Character Recognition (OCR) -Scanners have now become a global technology that many people use. When combined with special software that can recognize letters, known as optical character recognition (OCR) software, however, they become an assistive technology tool that can transform print into alternative formats that can be read by people who are blind or visually impaired. For example, one might receive an important document in print. With a scanner connected to a computer the printed document can be scanned and convert into an electronic file that can be displayed as text on the computer monitor. The text can be read using several different methods, such as a screen reading program, a screen magnification program, or a refreshable braille display. A computer word processing program can be used to print the text it in the user's choice of print sizes and fonts. Some people with visual impairments use conventional OCR software, while others prefer a specialized scanning system. Some visually impaired users prefer a reading machine, which is a standalone system with a scanner, the OCR software, and voice output.

2.8 Let Us Sum Up

Functional academic skills improve the reading writing skills of blind and low vision persons. The techniques are very useful at the time of learning how to read and write. Various reading and writing devices are help for giving success of the goal of these skills. By the use of assessment procedure teachers can be satisfied how much a child can able to learn. Both blind and low vision person can easily learn their academic skills by the use of various types of aids and appliances. These appliances are made on the depends on child's capability. So it must be say that now a days academic procedures are not a barrier for a visual impaired person.

2.9 Check Your Progress

1. What is LMA?
2. Write the importance of reading readiness at the time of braille teaching?
3. How you help a low vision child at the time of reading and writing?
4. Write the difference between aids and devices?
5. List up the name of devices print and braille reading.

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Unit - 3 ❑ Teaching of Independent Living Skills

Structure

3.1 Introduction

The teacher of visually impaired children expected to acquire adequate skills for teaching visually impaired children. The skills must be in the areas of expanded core curriculum or plus curricular activities such as sensory efficiency training, orientation and mobility, daily living skills, socio personal skills etc. Considerable amount of time should be provided to the students in these areas. All these skills are come under independent skills or independent living skills. On the other hand these skills help a blind person for developing their self- confidence and make them mentally strong. By which they can easily overcome their psychological barrier. Or clearly it must be said that independent living skills help the visually impaired person for removing all types of difficulties which they faces day to day life and make them self depended adoptable socialized person.

3.2 Objectives

After going through this unit you should be able to:

1. Describe about independent living skills
2. List out the activities of independent living skills
3. Discuss the techniques of mobility skills
4. Point out the importance of sensory training

5. Know the usefulness of daily living skills
6. Understand the needs of social interaction skills

3.3 Independent Living Skills- Meaning, Importance, Components

3.3.1 Meaning

One of the primary purposes of education is to prepare individuals with the tools that allow them equal opportunity to successfully cope with the demands typically encountered in adulthood. In general, these demands involve living with others, managing one's personal life, earning a living, and contributing to and participating within the community. The tools needed to meet these demands include knowledge and skills acquired through academic instruction, social competency developed through interactions with others, specific vocational preparation based on interests and aptitude, and skills of independent living.

Independent living, as seen by its advocates, is a philosophy, a way of looking at society and disability, and a worldwide movement of people with disabilities working for equal opportunities, self-determination, and self-respect. In the context of eldercare, independent living is seen as a step in the continuum of care, with assisted living being the next step. In most countries, proponents of the Independent Living Movement claim preconceived notions and a predominantly medical view of disability contribute to negative attitudes towards people with disabilities, portraying them as sick, defective and deviant persons, as objects of professional intervention, as a burden for themselves and their families, dependent on other people's charity. These images, in the Independent Living analysis, have consequences for disabled people's opportunities for raising families of their own, getting education and work, which, in turn, result in persons with disabilities making up a large portion of the poor in any country. According to philosophical thoughts -"Independent Living does not mean that we want to do everything byourselves, do not need anybody or like to live in isolation. IndependentLiving means that we demand the same choices and control in our everydaylives that our non-disabled brothers and sisters, neighbours andfriends take for granted. We want to grow up in our families, go to theneighbourhood school, use the same bus as our neighbours, and work in jobsthat are in line with our education and interests, and raise families of ourown. We are profoundly ordinary people sharing the same need to feelincluded, recognized and loved." So it may be say that Independent living includes the skills and knowledge an individual needs to direct his or her life at home and in the community.

3.3.2 Importance

Skills of independent living necessary for managing adult life include skills related to personal hygiene, eating, dressing, clothing selection and care, food preparation, money management, time management, use of the telephone, cleaning, home maintenance, and community functioning. Within each of these broad areas are additional sub-skills that must be mastered in order to function as interdependent individuals within society. Acquisition of these skills and sub-skills occurs gradually for most children beginning in infancy, primarily through watching adults and older members of society accomplish tasks in which they are used. Children whose interest has been piqued through vision watch carefully, ask questions, practice observed skills in their play, and are physically and verbally guided in their attempts to reproduce the task by competent, older members of society. Spontaneous instruction is provided as needed within the naturally occurring context of the task and often involves demonstration and modelling by competent others, specific feedback on the child's attempt, and encouragement to practice the task, first while helping, then independently. Because acquisition of these skills occurs primarily within home and community environments, academic programs typically do not formally address them. That school programs do not incorporate instruction in independent living skills, however, does not make them any less critical for post-school success. As is true for other children and youth, the acquisition of independent living skills is crucial for the post-school success of students who are blind or who have low vision. Visual impairment may impede the process of the development of independent living skills in several ways, among which are:

- Children may not clearly observe others performing tasks, so may not be aware that the tasks even exist or that other children attempt them in play and real situations.
- Children may not clearly observe the whole task or the techniques that others use to perform independent living skills so may not have a cognitive model upon which to build skills that includes an understanding of the whole task or its component parts.
- Instruction in independent living skills is complicated when learners cannot easily benefit from demonstration and modeling and when the person providing the instruction does not have a well-established understanding of appropriate strategies for addressing the impact of visual impairment on learning.
- Children with visual impairment may not be given enough opportunities to practice new skills until they become fluent.

For students with visual impairments to achieve success in adulthood, they must have well-developed independent living skills prior to transitioning from school to work. Teachers of students with visual impairments (TVIs) must annually assess all students' skills in each independent living skill area and compare these skill levels to those being acquired by their same age peers, considering that peers often learn about skills long before they use them.

Little research has been conducted on the acquisition of independent living skills by students with visual impairments, but there is evidence that these students are delayed in their development of skills in this area. In 2002, Lewis and Iselin compared the interview responses of 10 parents of children with visual impairments ages 6-9 to the responses of 10 parents of same-age students with unimpaired vision to determine the students' level of independent functioning. The 101 survey items focused on hygiene, dressing, clothing care, kitchen, home care, and money, telephone, and community skills. The difference between the level of assistance provided to these students was statistically significant, with children with unimpaired vision clearly demonstrating levels of independence far above their peers with visual impairments. The students with visual impairments were performing only 44% of the tasks independently, while their sighted peers were reported to perform 84% of the skills independently. In fact, students who were blind or who had low vision were not performing 41% of the tasks, even with assistance, while their peers were unable to perform only 14.5% of the tasks independently. In a more recent study of adaptive behaviour in the areas of communication, daily living, and socialization skills of 46 Greek students with visual impairments ages 5 to 18 years old, Papadopoulos, Mestizo, and Agilities (2011) found that the lowest adaptive level of their participants was in the independent living domain. Using the national norms of Vineland Adaptive Behaviour Scales (1984), students with visual impairments scored between the low to moderately low categories (1.46 on a 3 point scale), although when compared to the supplementary normative group, participants were determined to be functioning between the average and above average range. The authors also noted that, while students' abilities in the living skills domain improve with age, the rate of their delay increases. They recommended that instruction in daily living skills be emphasized in school programs to reduce performance gaps. For students with gaps in the development of independent living skills, TVIs must advocate for the inclusion of appropriate goals related to these functional skills on Family Service Plans and Individualized Education Programs (IEPs), as well as for the time and resources to teach these skills. Strong advocacy is key, since people unfamiliar with the long-term outcomes of many students with visual impairments may mistakenly believe that the

acquisition of academic skills is of greater importance to post-school success. Experienced educators of students who are blind or who have low vision, however, recognize that students without well-developed independent living skills struggle to use academic knowledge within adult education, vocational, and community environments. A second role, then, of TVIs is to help administrators, parents, and other members of IEP teams to realize the critical importance of including instruction in independent living skills in the curriculum of students who need it. Finally, TVIs must be prepared to provide carefully designed formal instruction in independent living skills to students from infancy until age 22 and to assist students' parents as they acquire experience in introducing, teaching, and reinforcing these skills within the home and community. Instruction should meet the assessed needs of each student; incorporate appropriate alternative sensory methods; focus on safety, fluency, and efficiency; and facilitate development of students' problem solving, organizational, sensory efficiency, and self-advocacy skills. As much as possible, instruction should occur within naturally occurring environments and contexts, but the limited availability of either or both of these conditions should not prevent instruction from occurring. As part of their responsibilities, TVIs must maintain longitudinal records of students' acquisition of skills and assure that the development of more complex skills within any area occurs when appropriate. Students with visual impairments deserve the opportunity to acquire and use independent living skills similar to those of their peers. Similarly, teens with visual impairments deserve to leave high school ready to function in the adult school, community, and work environments to which they transition. Through assessment, advocacy, collaboration with families, targeted formal instruction, and a commitment to positive post-school outcomes, these objectives are much more likely to be achieved.

It is the position that children and youth with visual impairments require carefully designed instruction in independent living skills that is facilitated by qualified individuals who understand the impact of visual impairment on the acquisition of general information and learning. Development of independent living skills is vital for full integration in society. Specialized assessment and instruction must be provided. In addition, sufficient time, resources, and support must be available to teachers of students with visual impairments to allow them to address all the educational needs of their students, including those related to independent living skills. Teachers, parents, and administrators must work together in these efforts to achieve the promise of equal opportunity, the overarching goal of education.

3.3.3 Components

The components of independent living skills are as follows-

- ✓ Home Living
- ✓ Household & Money Management
- ✓ Transportation
- ✓ Law & Politics
- ✓ Community Involvement
- ✓ Personal Safety
- ✓ Recreation & Leisure
- ✓ Interpersonal Relationships
- ✓ Self-Advocacy / Self-Determination

On the basis of these components various activities are included in the expanded core curriculum's syllabus. Which are most commonly named as orientation and mobility skill, daily living skill, personality development skill etc.

3.4 Orientation and Mobility-Need and Importance, Techniques of Teaching Mobility Sighted Guide and Pre Cane, Cane Techniques and Mobility Aids

Orientation and Mobility

Movement is a building block for learning. As a child explores his world and has physical contact with it, learning takes place. Children with visual impairments typically need encouragement to explore their surroundings. To them the world may be a startling and unpredictable place, or it may not be very motivating. Orientation and mobility training (O & M) helps a blind or visually impaired child know where he is in space and where he wants to go (orientation). It also helps him be able to carry out a plan to get there (mobility). Orientation and mobility skills should begin to be developed in infancy starting with basic body awareness and movement, and continuing on into adulthood as the individual learns skills that allow him to navigate his world efficiently, effectively, and safely. Orientation and mobility training actually began after World War II when techniques were developed to help veterans who had been blinded. In the 1960s

universities started training programs for Orientation and Mobility Specialists who worked with adults and school aged children. In the 1980s the O & M field recognized the benefit of providing services to pre-school aged children.

Today, orientation and mobility specialists have developed strategies and approaches for serving increasingly younger populations so that O & M training may begin in infancy.Orientation and Mobility or O&M is a profession which focuseson instructing individuals who are blind or visually impaired withsafe and effective travel through their environment. IndividualO&M Specialists can work for schools, government agencies or doprivate contracting for their services. The Academy for Certificationof Vision Rehabilitation and Education Professionals offerscertification for vision rehabilitation professionals, in the USA.History of Orientation and mobility Orientation and mobilitytraining actually began after World War II when techniques weredeveloped to help veterans who had been blinded. In the 1960suniversities started training programs for Orientation and MobilitySpecialists who worked with adults and schoolagedchildren. In the

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Mobility began to develop during, and immediately after, World War II, when soldiers who had been blinded in battle were sent to recuperate at Valley Forge Army General Hospital before entering Avon Old Farms Convalescent Hospital, the U.S. Army's former experimental rehabilitation centre for blind soldiers in Avon, Connecticut. Orientation and Mobility Specialists An Orientation and Mobility (O&M) Specialist provides instruction that can help you develop or relearn the skills and concepts you need to travel safely and independently within your home and in the community. O&M Specialists provide services across the life span, teaching infants and children in preschool and school programs, as well as adults in a variety of community based and rehabilitation settings. Although Orientation & Mobility Specialists are primarily responsible for O&M training, their work may not always be done directly with the child. When the child is very young, for example, the O&M may provide consultation to the vision teacher, occupational therapist, physical therapist, early intervention specialist, and the family.

3.4.1 Need and Importance

Orientation and mobility (O&M) training helps children and adults who are blind or visually impaired know where they are, where they want to go (orientation) and how to get there safely and independently by walking or using transportation (mobility) The Department for the Blind and Vision Impaired offers travel skills assessments and training, orientation technique training, and instruction in how to get around independently, to include:

- Using hearing, touch and smell to gather information about the world
- Learning spatial concepts to understand the relationships that exist between objects in theenvironment
- Using the cane to clear a safe path and locate objects along the way in both indoor and outdoorenvironments
- Asking for or declining assistance
- Independently finding your destination
- Techniques for crossing streets, such as analysing the shape of an intersection? determining iftraffic is controlled by a stop sign, yield sign, a traffic light, or no control
- Problemsolvingskills to determine what to do if you are disoriented or lost or need to change yourroute
- Using public transportation and transit systems

Specialists provide services to adults in a variety of communitybased and rehabilitation settings. Orientation and Mobility services are provided in your home, college, community, city and work site.

Importance of Orientation and Mobility in Rehabilitating Individuals who are Blind or Visually.

Impaired Orientation and mobility (O&M) is a vital a program for the blind and visual impaired and its importance can never be over emphasized. O&M is important because instruction covers the following areas?

" Sensory development, or maximizing all of your senses to help you know where you are and whereyou want to go

- Concept development, which includes body image, spatial, temporal, positional, directional, andenvironmental concepts
- Motor development, including motor skills needed for balance, posture, and gait, as well as the use ofadaptive devices and techniques to assist those with multiple disabilities
- Sensory development, which includes visual, auditory, vestibular, kinaesthetic, tactile, olfactory, andproprioceptive senses, and the interrelationships of these systems
- Residual vision stimulation and training
- Upper and lower protective techniques
- Locating dropped objects
- Trailing
- Squaring-off
- Using a cane and other devices to walk safely and efficiently
- Soliciting and/or declining assistance
- Following directions
- Utilizing landmarks
- Search patterns
- Compass directions
- Route planning
- Locating destinations using various techniques and tools
- Analysis and identification of intersections and traffic patterns
- The use of traffic control devices
- Techniques for crossing streets
- Techniques for travel in indoor environments, outdoor residential, small and large business districts,mall travel, and rural areas
- Techniques for crossing streets, such as analysing and identifying intersections and traffic patternsProblemsolvingskills to determine what to do if you are disoriented or lost or need to change yourroute

- Using public transportation and transit systems
- Evaluation with sun filters for the reduction of glare
- Instructional use of low vision devices

3.4.2 Techniques of Teaching Mobility

When planning an O & M program for children the focus of training may include such things as:

- **Sensory awareness:** gaining information about the world through hearing, smell,touch and proprioception. When a child cannot access his world efficiently through his vision, he must learn to use his other senses more effectively. Systematic instruction is needed to develop the other senses for use in travel and finding things in the environment. He must understand that some of the sounds and smells and textures he experiences can be used as permanent markers (landmarks) to let him know where he is in the world. Other pieces of information may be there sometimes and not at other times (clues) such as the sound of the water fountain. Developing sensory awareness is critical for the child with visual impairments or blindness. Sounds, when not paired with clear visual information, can be very confusing. Try sitting in a busy mall or park for a period of time with your eyes closed. You will probably hear sounds you can't identify and be tempted to open your eyes, to try to pair a sound to its source. You might assume that sounds which get louder and louder are coming towards you because of your visual knowledge of the world. A child with a visual impairment may not make the same assumption. The ringing noise he hears may not mean "telephone" or that the honking sound may not mean "car." He needs help in learning to use his hearing to interpret the world around him. If his hearing is impaired even to a small degree that task will become much more difficult. Close your eyes and plug your ears while you stand on a busy street corner. Can you tell which way the traffic is flowing or when it will be safe to cross the street? Are you startled or distracted by other noises you hear? Children need to learn to localize sounds and use sound clues for orientation, straight line travel, and safety. Though we may not be aware of it, we know much of the world through touch. However, if the things you touch or that touch you feel funny, or hurt, you may become resistant to using touch to examine things in your environment. Touch alone may not be helpful in identifying an object if you can't touch the whole object at one time. Is

the furry thing a cat or a rabbit? If you aren't touching the ears or the teeth or the tail you might not know. Developing the tactual sense will help the child in ways that range from finding a toy he dropped on the floor to feeling the difference between the curb and the street with his cane. Normally I don't pay much attention to smells unless they are extremely pleasant or offensive, but I might use that kind of information to help me know exactly where I am in certain environments. Smells can also serve as landmarks and clues for environmental awareness. For example, the smells that can be found in my kitchen differ greatly from the smells in my bedroom. I can also smell food being cooked near mealtime in my kitchen, but after a meal I am more likely to smell the soap used in the dishwasher. If I am looking for a clue to my location, I need to know that both of those smells might mean I'm in the kitchen. The gym at school, unlike my kitchen at home, might always smell about the same. If I have no sight, this smell, especially combined with other clues and landmarks, might help me know that I am in the gym. It is important for children with visual impairments to participate in activities that enable them to fully use their other senses. Learning to interpret the information they tune in to is equally important. Parents and educational staff, with support from the O & M, can do a lot to help children develop their other senses.

- **Spatial concepts:** realizing that objects exist even if not heard or felt, andunderstanding therelationships which exist between objects in the environment. "Go down the street three blocks and turn right at the corner. I live in the upstairs apartment of the large, red brick building on the left." Pretty clear directions right? What if you don't know "blocks" and "corner" or "upstairs" and "left"? Doesn't "down" mean under? How large is "large?" When vision is impaired these concepts are much more difficult to understand and need to be taught. How do you teach the concept of "corner" without vision? Do you touch corners or draw corners? If you can touch a corner or draw a corner, where do I find the corner to touch when I am walking along the street? Orientation and mobility specialists work to develop distance, size and directional concepts in children with visual impairments. Mom and Dad, and Mrs Henry the art teacher, may work on these concepts too, but having the support of an O & M would likely make their job much easier. Our joints and muscles give us feedback about where our body parts are positioned. This is our proprioceptive sense. Proprioceptors located in the muscles and joints tell us if we are slumping or standing up straight, if our fingers are curled or extended, etc. Our vision system and our proprioceptive system work closely

together. When vision is impacted, so is our proprioceptive sense. Children with visual impairments generally need help to learn where their bodies are in space, and in relation to things in the environment. The physical therapist and occupational therapist, along with the O & M, can work directly with the child. They may also be able to suggest specific activities for the family, to help their visually impaired child develop the proprioceptive sense.

- **Searching skills:** locating items or places efficiently. By using this skill find out object in unfamiliar surroundings and also save time.
- **Independent movement:** this includes crawling, rolling, walking, etc.Most children with visual impairments are capable of learning routes in familiar environments. They learn to use landmarks and clues to help them know where they are along a particular route. They learn specific adaptations to aid them in their movement. These might include understanding that tactual markers on doorways identify the gym or the restroom, using an adaptive mobility device or a cane to identify obstacles and drop offs, or locating a street sign using a monocular. A primary goal of orientation and mobility training is to help each child with visual impairments achieve independent movement to as great a degree as possible.Some children may be preparing to get a dog guide, or learning how to access public transportation to get across town to a job. For children with additional disabilities, independent movement might focus on traveling independently in a wheelchair, or learning how to help get you into a van using a lift. It might mean helping the child learn to control the speed of movement on his walker as he goes down a ramp. Independent movement is tied to growth in other areas, such as communication and socialization. For example, though a child may not be able to tell you he's hungry, if he can take you to the kitchen you will probably understand that he wants something to eat or drink. Peers are more likely to invite your daughter to go to the mall if she can keep up with the group by using sighted guide technique or traveling with a cane. Going where we want when we want gives us control and allows us to make choices.
- **Sighted Guide:** using another person to aid in travel. While principal objective of orientation and mobility training is attaining freedom in movement, help of another person is essential under certain circumstances. A visually impaired may require assistance of sighted guide while crossing busy road, moving in a less familiar environment, searching a visual sign or moving in a crowded place.

- **Protective techniques:** specific skills which provide added protection in unfamiliarareas. Can be used for protection from such vertically placed obstacles or low obstructions. And also used in alone walking.
- **Cane skills:** use of various cane techniques to clear one's path or to locate objectsalong the way. It has been and remains the primary tool utilized by the visually impaired individual in his travel through the environment. The purposes of the cane are- protection, feedback and identification.

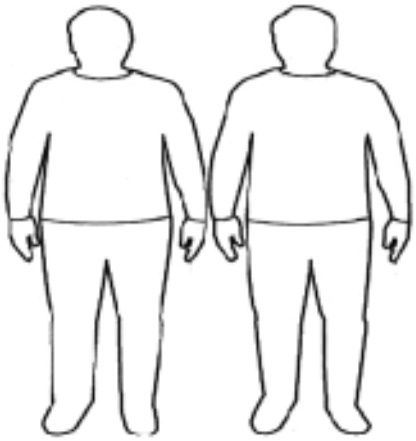
Although Orientation & Mobility Specialists are primarily responsible for O & M training, their work may not always be done directly with the child. When the child is very young, for example, the O&M may provide consultation to the vision teacher, occupational therapist, physical therapist, early intervention specialist, and the family. It is important that an O & M Specialist be a part of the team because it is the O & M who must build upon these early concepts to meet long range goals. Even visually impaired children who have motor impairments need training in orientation and mobility. Though their O & M goal may not be independent travel, they may needO&M to participate more fully in events in their environment. For example,understanding that child's wheelchair is in front of him, can help him find it to assist withthe transfer to the chair. Knowing that his switch is on the right side of his lap tray may allow him to play his CD player whenever he choose, instead of having to waitfor someone to come help him. Even if he is not yet walking, it would probably begood to know that he could listen for the sounds mom is making in the kitchen to helphim find the way to her.Children who are deaf-blind also need orientation and mobility training. Because theirother distance sense (hearing) is affected, orienting to their environment and travelingsafely becomes even more important. Orientation and mobility specialists have specificknowledge which is critical to the child with deaf-blindness. Orientation and mobility is important for every visually impaired child. It does not matterhow young or old he is, how physically active or inactive, how much vision he has, orhow smart a child he is, there are probably skills that he needs to develop or refine inthe area of orientation and mobility.

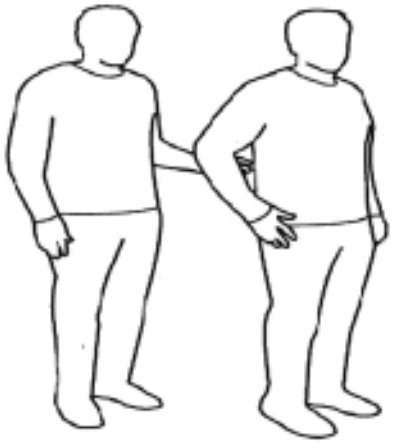
3.4.3 Sighted Guide Technique

Sighted guide is a technique originally developed for people who are blind. It is also useful for those with low vision who are unsure of their bearings in an unfamiliar environment. Remember, always ask if any help is needed; not everyone needs or wants sighted guide assistance.

- **Basic Sighted Guide Position and Alignment:**

The basis of the sighted guide technique is the blind or low vision person holds the guide's arm lightly above the elbow and allows the guide to walk one-half step ahead. This allows him or her to feel and follow the guide's direction.To begin sighted guide, the guider should touch the arm of the person being guidedwith the elbow preferable to use. He or she can then take the arm above the elbow. If someone needs extra support for walking, the guider should bend the supporting arm, parallel to the ground so he or she can apply weight to the arm.





Guiding signals are helpful when a change in motion is needed, for example, a brief pause at the edge of a curb. Verbal clues are also helpful; "We are approaching a curb, the curb is slanted upward." So some important rules are as follows-

1. The sighted guide gives verbal cue ("take my arm/wrist") and/or nonverbal cue (touching the back of the person who is blind's hand with the back of the guide's hand).
2. The person who is blind should stand next to and slightly behind sighted guide, facing in the same direction as the guide. Therefore, the person who is blind is always at least a half step behind the guide.
3. The person who is blind's upper arm remains close to his or her body, with forearm and upper arm making a right angle at the elbow, with the forearm, wrist and fingertips aiming directly forward. The wrist is neither flexed nor hyper-extended, and the forearm neither angles toward the midline of the body nor away from the body, but aims straight ahead. The person who is blind grasps the guide's arm or wrist with the fingers toward the inside and the thumb toward the outside of the guide's arm.

4. The guide's arm is grasped at a location such that the person who is blind's upper arm and forearm form a right angle. The height difference determines this. A pre-schooler may grip an adult's wrist, whereas a tall person who is blind may need to grip a short guide's arm just under the armpit. The right angle allows for movement up or down for steps or curbs, etc.
5. The person who is blind's shoulder is directly behind guide's opposite shoulder, so that the pair are approximately one and one-half persons wide, except when traversing narrow passageways in which only one person can safely pass at a time.
6. The person who is blind should be responsible for maintaining orientations as well as the proper grip and alignment with the guide, but if he or she in incapable of doing so, the sighted guide is responsible for monitoring this.

The person who is blind's non-grip hand can be used to confirm proper alignment by touching the guide's shoulders and aligning him/herself accordingly. The person who is blind can also assist with doors when appropriate, and the guide is responsible for the decision to transfer sides as needed to traverse doorways based upon the capabilities of the person who is blind.

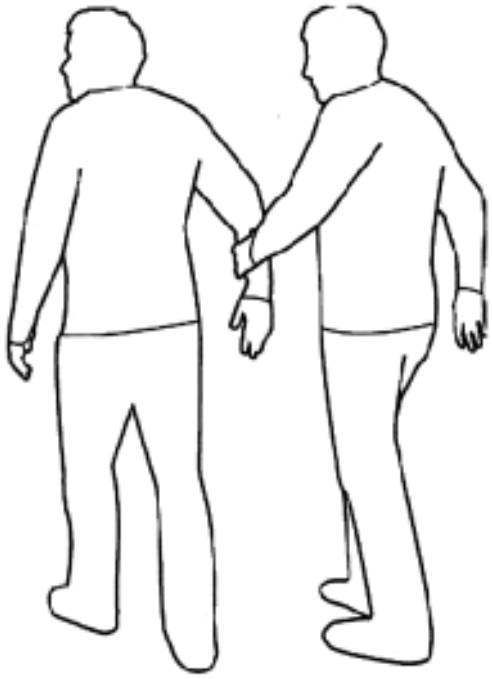
7. The sighted guide is responsible for the safety of the person who is blind at all times, regardless of the errors on the person who is blind's part. The guide must be especially careful to monitor obstacles at various levels from head to toe. These obstacles not only include furniture, fixtures and people, but also overhanging head-high obstacles as well as slight irregularities in the walking surface, such as carpets, doorway mouldings and changes of texture in the walking surface. If the person who is blind trips, it is the guide's responsibility to support the person who is blind. The guide should choose or adjust walking pace to accommodate the needs of the person who is blind.

- **Narrow door or passage:**

When going through a narrow door or passage, move your guiding arm backward toward the small of your back, so the person being guided can step in single file behind you

1. The guide gives a nonverbal cue for the person who is blind to get directly behind the guide by moving the guiding arm back, placing the wrist in the small of the guide's back.

2. The person who is blind slides his/her hand down to the guide's wrist, stepping diagonally backward to walk directly behind the guide. The person who is blind extends his or her arm in order to avoid stepping on the guide's heels, walking one full step directly behind the guide. The non-grip hand can be used to confirm proper single-file alignment.
3. When the person who is blind is much taller or has a much longer stride than the guide, the guide may wish to extend his/her guiding arm backward from the small of the back. Although uncomfortable, it allows more room for the person who is blind's greater stride.
4. The guide may choose to reduce the pace and shorten stride slightly while going through the narrow space, then resume arm position, pace and stride after passing through the narrow space.



- **Reversing Directions or Transferring Sides:**

(Note: either party can initiate a change of direction or a change of sides, after notifying the other of the need to do so.)

1. Reversing directions: The pair comes to a complete stop, the person who is blind releases grip, and the pair turn toward each other while executing a 180 degree

turn. The guide then re-establishes contact and the pair resume proper position and grip, traveling in the opposite direction.

2. Transferring sides: There are two methods of transferring sides; based upon the ability and preference of the person who is blind.

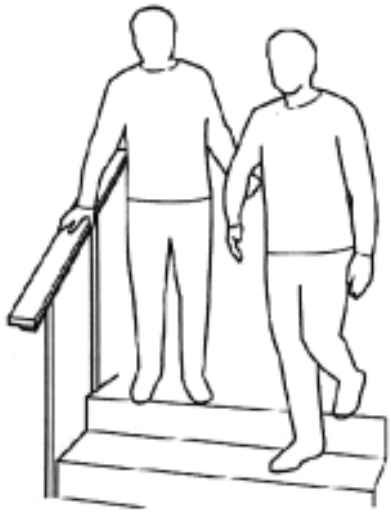
o The most stable method is the grip method, done after the pair comes to a dead stop.

The person who is blind places the back of his/her free hand just above his/her grip on the guide's arm and moves the original grip hand across the guide's back to the guide's other arm as he/she sidesteps into the new position on the guide's other side, resuming grip with the appropriate hand.

o The slide method of transfer can be done while stopped or while traveling, depending upon the abilities of the pair. The back of the person who is blind's free hand contacts the guide' s arm just above the original grip hand, with the fingertips pointing toward the guide's opposite arm. The person who is blind then releases the original grip and turns 90 degrees toward the guide's opposite arm, trailing across the guide's back until the guide's opposite arm is gripped and the new alignment is achieved. Since trailing is less secure than a firm grip, and since this method required a change of direction, it is not recommended for lower functioning or physically unstable individuals.

- **Curb:**

When approaching a curb, pause briefly at the very edge of the curb and say whether the curb goes up or down.



- **Stairs**:

When approaching stairs, come to a stop at the edge of the first step and say whether the stairs go up or down and where the railing is located. The person being guided will follow one step behind, holding your arm with one hand and the handrail with the other. Pause after completing the stairs.

1. In an unfamiliar area, the guide should indicate the presence of a level change, particularly novel types of stairs (deep, narrow, curved, etc.).
2. With both ascending and descending curbs and stairs, the guide must take care to approach the stairs perpendicularly. In this way, the person who is blind is aligned so as to take the next step either up or down as the guide's movements indicate.
3. The guide brings the person who is blind alongside to the edge of the steps so that neither person's toes extend over the edge of a descending step or under the extended edge of an ascending step.
4. When a railing is available, it is best to have the person who is blind take the railing before the guide takes the first step, unless he/she requests otherwise.
5. The guide takes the first step up or down in front of the person who is blind. The person who is blind waits until the guide has taken the first step, and both people work together to stay in step, with the person who is blind one step behind the guide at all times.
6. The guide is responsible for monitoring and making adjustments so that when the guide is at the top or bottom, he or she pauses to indicate this while the person who is blind takes the last step.

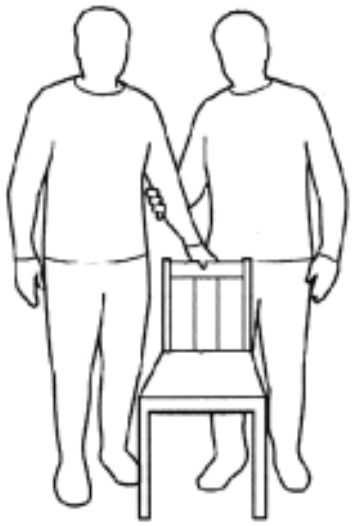
The guide's arm then moves directly forward (rather than up or down and forward) to indicate the level surface.

- **Chair:**

When approaching a chair, place the hand of the person being guided on the back or side of the chair if possible, so he or she knows where the chair is and which way it is facing. He or she can then decide where to sit

1. Place the person who is blind's hand on the back of the chair and/or guide the person to the chair so that his or her knees or shins gently contact the edge of the seat. Tell the person that they are facing the front, back or side of the chair. For table/chair combinations or with stools or other unusual seating, explain the situation first, and then place the person's hand on it.

2. In an auditorium or with similar narrow seating, the guide first explains the situation, and then enters the aisle by side-stepping side-by-side with the person who is blind, maintaining contact with the person who is blind by touching the backs of each other's hands until they have located their respective seats. Allow the person who is blind to seat him/herself.



- **Door:**

When coming to a door, stop first, then say whether the door opens toward or away from you, and whether it opens to the right or the left. The person being guided can then move to the appropriate side. Open the door and proceed.

1. The guide gives the narrow passageway signal, always going through the door first. The guide's movements to open the door can sometimes be interpreted by the person who is blind as to whether the door is a push or pull door, as well as to which side the door opens. When approaching a pull door, the guide must stop farther back than he/she normally would, reach forward and pull the door back without stepping backward into the person he/she is guiding.
2. With both push and pull doors opening to the person who is blind's side, the person who is blind should anticipate contacting the door by putting his or her arm into a modified hand and forearm position.

If the person who is blind does not do so, the guide must be responsible for assisting as

necessary, while maintaining proper alignment through the doorway so that the person who is blind maintains the proper alignment through the doorway.

3. The person who is blind is responsible for holding the door, which opens to his or her side. The sighted guide is responsible for seeing that the person who is blind is on the side away from the door opening if the person who is blind cannot hold the door. The guide is also responsible for holding the door or monitoring in such a way as to avoid injury to either party. The person who is blind's hand should never slide on the door while it is opening or closing, nor should the door be contacted on the edge, but as close to the middle as possible.

- **Escalators and revolving doors :**

When approaching escalators and revolving doors, use techniques similar to those for stairs, curbs, and doors. If the person you are guiding is uncomfortable, use stairs or regular doors. Buildings with escalators or revolving doors are required to have stairs and regular doors.

- **Car :**

When helping a visually impaired person into a car, place one of their hands on the door handle and have them locate the edge of the car roof with their other hand. Thus allowing the guided person to seat themselves.

- **Other Important Tips to Remember :**

1. be considerate of the person who is blind's need to know where he/she is, who and where you are, and who else is present. Encourage others to introduce themselves so that the person who is blind can locate them and connect names with voices.
2. Never leave that person unless you first inform them. Make certain that he/she knows where you are going and when you will return, etc. If he or she is not sitting, it is helpful for them to have something substantial to touch (chair, table or wall) in order to maintain his or her orientation.

- **Final thoughts:**

These techniques are useful in numerous circumstances. Family and friends often use them in daily activities such as shopping, dining out, and much more. Co-workers of those with low vision may find these techniques useful when assisting their colleagues. Healthcare professionals and other caregivers also find these techniques beneficial. If you or someone you know will benefit from additional information on the sighted guide technique please contact the SightConnection office.

3.4.4 Pre Cane Technique

The Trailing Technique

Trailing is a technique of using the back of the hand with fingers curled slightly inward and arm slightly extended to trail a wall or around an object such as a table.The Trailing Technique can help to locate a door, walk in a straight line, or detect the position of objects in front of the person on the same side of his body as his extended arm. This technique can provide him with useful information about everyday objects, obstacles, and potential hazards that he may encounter as the time of move about own home. It can also provide him with a feeling of security while the walk, by allowing him to remain in contact with walls, countertops, desks, tables, or other types of stationary surfaces. It's important to remember that this technique will not warn you about approachingdrop-offs, such as steps and stairs. For maximum protection, he should use thetrailing technique in combination with either the upper or lower body protective technique, depending upon his needs in a particular environment.It is essential to impart training to visually impaired persons as it:

1. Begin along a straight stretch of wall in an uncluttered area. Stand with the side of own body about 6 inches from the wall.
2. Extend his hand in front of him at approximately hip level and angled downward toward the floor, about 12 inches from own body.
3. The back of his hand should be in contact with the wall, with his fingers slightly cupped toward his palm.
4. This will prevent him from injuring his fingers if they make contact with an object. His fingers will also act as "bumpers" to warn him about objects that he may encounter.
5. Walk forward slowly while holding his arm in this position, keeping the backs of his fingers, especially the knuckles of his ring and "pinks" fingers, in contact with the wall.
6. Make sure that the back of his hand is always in contact with a surface while he is moving.
7. When he make contact with or locate an object, take a few moments to examine and identify it.
8. If he comes to a doorway, walk across the opening and resume trailing on the other side.

9. For maximum protection when crossing the door opening, it is recommended that he use either the Upper Body Protective Technique or Lower Body Protective Technique, depending upon the particular environment.
10. Initially, he may be able to hold this position for only a minute or two, but with repeated practice he will be able to maintain this position for longer periods of time.

Search pattern

It can be frustrating when a person can't locate something he has dropped. Some useful rules can help him locate dropped objects more easily. As search, remember to protect owns upper body, particularly his face and head. Also be sure to check with the doctor if he have a medical or eye condition that prevents from bending over, squatting, or kneeling. These search techniques can be used whether dropped something on the floor or a work surface such as a desk, table, or counter.

1. First stop whatsoever the person is doing.
2. Listen for the sounds the object makes when it falls to help you determine its general location. If the object falls on a soft surface, such as carpeting, it may not make a loud noise, but it is likely to remain close to the point where it fell. Objects that fall on harder surfaces, such as tile or wood, will make a louder sound but are also more likely to bounce or roll away from the point of impact.
3. Face in that direction.
4. If can determine the general location of the object, plant the foot with the toe pointing in that direction.
5. When searching for a dropped object, follow a system. Begin searching close to own body and then move outward. Search with own hands (not only with your fingertips) in overlapping semicircles, for example, or overlapping rows from side to side. Don't forget to check between and around own feet.
6. Try to search with one hand at a time, using the other to protect and stabilize ownbody.
7. Being a systematic search in the following pattern:
    i) Circular: move hand in ever increasing circles
    ii) Perpendicular: follow a square pattern making a series of horizontal movements each separated by one hand's width

8. Instead of using own hands, stand in one place and search with own feet, or use a yardstick, broom handle, closed umbrella, or cane to search the area systematically.
9. Use a broom to sweep the area and check the pile that he has collected. He can also use a broom if he has balance problems, have difficulty bending over, or areafraid of falling.
10. The person can also sit in a chair and use own hands or feet to search.
11. Always remember to protect head and face as the time of searching.
12. Use own visual memory in combination with these search techniques to receive maximum feedback from the surroundings.

Protective techniques

Protective techniques are designed to be used to protect one when traveling indoors or outdoors. There are several different ways can protect them when they are traveling. There are two techniques called the upper and lower protective techniques. The upper protective technique is to protect individuals from overhanging dangers that a cane may not detect. Either arm is extended in front of the face or upper chest area. The elbow is bent and the palm is facing away from the face. The arm should extend approximately six to twelve inches away from the face. The traveller then can detect doors, walls, cabinets, outdoor overhanging trees or branches, etc… The lower protective technique is to detect things waist down. The arm is extended diagonally across one's midline. The palm should face towards the body and be approximately six to twelve inches away from the individual. The traveller can use this technique to detect chairs, tables, desks, beds, etc… The techniques can be used individually or together. They can also be used in conjunction with a cane in the opposite hand. Protective techniques are meant to be used temporarily to detect immediate danger in one's pathway. Once the object is found, the arm can be lowered. A final tool that can be used is trailing. Trailing can be use while walking along a wall, fence, building line, or any straight pathway. The object of trailing is to keep a straight line of travel and to help find objects along the pathway. When trailing, one's arm is extended along the wall, approximately one foot, in front of them. The fingertips should be curled to protect from door jams and other hazards along the way. One should then slide their arm along the wall. Again, this technique can be used alone or in conjunction with a cane or other protective techniques. Hopefully, these safety techniques will come in handy on their next trip near or far.

Support

3.4.5 Cane Techniques

Mostly and widely used, very practical and economical way of mobility is cane technique. The use of the cane is systematized by Dr. Richard Hoover so it is known as Dr. Hoover's cane and it is painted white so it is also known as 'white cane'. Many visually disabled feel shy to use the cane is the symbol of INDEPENDENCE. It is the extension of the sense of touch.

The cane has three parts; they are grip, stuff and tip. The grip is generally of rubber for firmness. The stuff is a long hollow aluminium tube. The tip is generally of nylon. There are three types of canes available long cane, folding cane and electronic cane. All the canes have almost the same parts. The cane techniques are simple, universal and can be applied even in a relatively unknown environment. The length of the cane is determined by the height of the user, generally 90 centimetres, should reach the breastbone when held vertically and should touch the ground about one meter in front when a person holds it.

Holding the Cane:

- Person can hold the cane in either hand.
- **Grip:** while holding the cane thumb should be on the front of the top, forefinger should be fully extended and second finger is curled behind to support the cane. But other fingers should be kept relaxed and elbow should be slightly bent near the body.
- **Hand position:** the hand holding the cane should always be in line with the middle of the body and in front of the navel.

Using the cane:

- **Wrist movement:** the cane is moved from side to side by the flexion and extension of the wrist with the tip touching the ground lightly at each movement. The arm should not be moved.
- **Arc:** the cane tip should touch the ground a little wider than the width of the person's body.
- **Instep:** simultaneously with the extension of one foot forward, the cane should move in the reverse. For example, as the left foot steps forward, the cane moves to the right and as the right foot comes forward, the cane goes to the left.
- **Rhythm:** the cane tip is lifted just clear of the ground as it traverses between two points of contact. The cane should move back and forth at steady speeds as the visually impaired person walks.

- **Shorelining:** the technique of following a fence, wall or side of a pavement with a cane is called Shorelining. The person should swing the cane to touch the wall, swing it back to the other side and as the person walks the cane should hit the wall lightly on one side of the arc and ground on the other.

- **Ascending and descending:** When going down stairs, let the cane tip fall onto the next step and don't swing it in case other people are trying to go down the stairs too. When going up the stairs, the cane will hit the first step when you are on the ground level. Grab the cane so it's relatively vertical, and let the cane hit each step as you ascend. Once you reach the top, go back to swinging. When going down the stairs, let the cane tip fall onto the next step and then step down to it. For a smoother descent push the cane forward along the step and allow the cane drop two steps below, so that it is always a step ahead of you. Keep the cane from swinging to allow other people to use the stairs. When pushing the cane forward doesn't result in it dropping you know you've reached the end of that set of stairs. To avoid a nasty fall, remember that after the cane has reached the bottom of the stairs, you still have another step to take.

3.4.6 Mobility Aids

Canes: The following types of canes are available:

i. Symbol Canes: Made of sections of light metaltubing, generally aluminium or its alloys, joined throughthe centre by means of an elastic cord. The canes foldup conveniently for carrying in the pocket or handbag.

When required for use, the top section is held andothers automatically fall into position. Devised for portability and not intended to be usedother than as a guide aid and an indication that theuser is a visually impaired person. This cane is popularlyknown as a Braille folding stick.

ii. Guide Canes: A stronger version of the symbolcane and intended to be more of a mobility aid butnot a means of support. The four sections, coveredwith ribbed

plastic sleeving, are joined through the centre by means of an elastic cord enclosed in nylonsleeving. It is fitted with an elastic loop handle anda standard nylon tip.

iii. Long Canes: A wooden or aluminium stick of 85to 90 centimetres. Three models are available: rigid,two piece, and four piece.

The aluminium cane is generally sleeved with PVCmaterial, having a rubber grip and a nylon tip withor without a crook.

iv. Electronic Travel Devices: An ETA is describedas a device that sends out signals to sense the within a certain range or distance, processes theinformation received and furnishes the person withrelevant information about the environment. Most ofthese devices are based on integrated circuits and emitsound or tactile signals.As ETAs are not available and prevalent in India, itis not very necessary to give description of these devices.However, for the sake of information, these devices are listed below:

- Lind Say Russell E-model Path Sounder
- C 5 Laser Cane
- Ultrasonic Torch
- Sonic Guide
- Light Probes
- Mowat Sonar Sensor
- Nottingham Obstacle Sensor
- Electro-cortical Prosthesis
- Electro Roftalm
- AFB's Computerized Travel Aid
- Polaroid Ultrasonic Travel Aid

Mobility Show Card: A plastic show card to help visuallyimpaired persons to cross busy roads and to hail a taxi.

Mini Beeper: A battery operated, hand-held electronicgadget having application

Electronic Aids for Orientation Andmobility

There are a variety of O&M devices that individuals with visual impairment use. Mostare considered "low tech" because they are very simple devices, typically a cane oradaptive

mobility device. These are the devices that most people with visual impairmentwill use for two good reasons: (1) they are relatively inexpensive to purchase andmaintain, and (2) you typically must be able to use these basic devices (especially acane) before you can learn to use other types of mobility devices or strategies such asultrasonic technology or dog guides. Your O&M specialist can show you canes andadaptive mobility devices and will be able to dispense these "low tech" devices to yourchild. There are also other O&M devices, more "high tech" and less well known, which wethought you might like to learn about. These devices can only be issued by an O & MSpecialist with ETA certification. The ETA certified O & M Specialist must also providetraining in the use of these devices. NonETAcertified O & M Specialists may notdispense or train individuals using these devices.

The Sonic Pathfinder is a head mounted ultrasonic mobility device designed for outdoor use in conjunction with a long cane, dog guide or residual vision.

TheSonic Pathfinder gives the user advance warning of objects which lie within the travelpath. The distance and position of a detected object is signalled via the ear pieces usingthe eight tones of the musical scale.

The Sensory 6 detects objects that are farther away than a long cane, and the userhears tones that indicate the distance to the objects. As objects are approached, thetones become higher pitched. The Sensory 6 is not intended to be the only travel aid. Itshould probably be used in conjunction with another aid, such as a cane.

The MOWAT Sensor is a small handhelddevice that uses high frequency sound todetect objects within a narrow beam. The entire sensor vibrates if an object is present.To avoid confusion, the sensor responds only to the closest object within the beam andthe vibration rate increases as the user approaches the object.

The Polaron is a compact aid that utilizes ultrasonic technology to detect objects within four, eight, or sixteen feet. The Polaron may be used as a secondary aid to a standard long cane, or with a guide dog. When an obstacle is within range, the Polaron either vibrates or emits a sound. The Polaron is designed specifically for the blind, visually impaired and deaf-blind wheelchair user.

The Wheelchair Pathfinder is a set of small rectangular boxes mounted to the front of the wheelchair. Lasers point downward while ultrasonic beams are transmitted in front and to the sides of the wheelchair. When the beam contacts an object, it bounces back to

a receiver, triggering an audible warning signal or optional tactile signal. The Wheelchair Pathfinder has forward detection (an intermittent beeping sound), side detection (a continuous tone on the side where the object is) and step detection (a low pitch signal within 4 feet in front of a drop off).

The Laser Cane operates with three lasers that emit invisible beams of light from thecane. The beams detect drop offs and obstacles at different heights and distances. In this way, the cane provides the user with advance warning of obstacles in his/her path through an audible and tactual alarm system. There are three distinctly different audible tones: high, middle, and low pitched. The vibrating unit, known as the tactile stimulator, signals the index finger when there is an obstruction straight ahead.

The Mini Guide is an ultrasonic device detects obstacles from 1.5 to26 feet away to augmentative information from other mobility aids such as cane or dog guide. This hand held electronic travel device uses ultrasound to detect objects and gives tactual or auditory feedback by vibrating or chirping more rapidly as the user approaches an object. The device can help a blind person avoid obstacles and overhangs, locate landmarks or items such as mailboxes or trash cans and find open paths through crowds.

The Wicab Brain Port device takes information gathered from a small digital camera in a pair of glasses and sends it to a 'lollipop' electrode array that sits on the users tongue. The camera then transmits the light information to a small base unit about the size of cell phone. The base unit then converts the light information in to electronic impulses.

TheHandheld Mobility Device is a small device which the user points around the surrounding. Once the handheld device detects a particular object the device will vibrate. The vibration enables the user to identify that there is an object nearby. A fainter vibration for a relatively far object and a stronger vibration to a near one. These devices should be used with a cane.

The C2 Compass is a miniature handheld battery operated 8point compass with digitized voice output. The compass is contained in a semi-transparent light blue enclosure. At the top there is the speaker and the activation button. A 3 position slide switch on the side is used to switch the compass off and select one of the two inbuilt language or voices.

The GPS although used in identifying one's location. GPS (GLOBAL POSITIONING SYSTEM) devices also help blind persons in travelling independently. It determines and verify correct travel route.

3.5 Daily Living Skills- Assessment of Needs and Techniques of Teaching Age Appropriate Daily Living Skills

3.5.1 Assessment of Needs of Daily Living Skills

Activities of daily living (ADLs) are basic self-care tasks, akin to the kinds of skills that people usually learn in early childhood or a person employs daily to maintain and keep himself on par with the others and certain activities that are must for a person to live and dose on a day to day basis are called activities of daily living which also known as 'survival skills'. They include feeding, toileting, selecting proper attire, grooming, maintaining continence, putting on clothes, Bathing, walking and transferring (such as moving from bed to wheelchair). ADLs are often mentioned by geriatric care professionals in connection with instrumental activities of daily living, which are slightly more complex skills. ADLs are occasionally referred to as basic activities of daily living (BADLs). Instrumental activities of daily living (IADLs) are the complex skills needed to successfully live independently. These skills are usually learned during the teenage years and include the following:

- Managing finances
- Handling transportation (driving or navigating public transit)
- Shopping
- Preparing meals
- Using the telephone and other communication devices
- Managing medications
- Housework and basic home maintenance

Together, ADLs and IADLs represent the skills that people usually need to be able to manage in order to live as independent adults. Doctors, rehabilitation specialists, geriatric social workers, and others in senior care often assess ADLs and IADLs as part of an older person's functional assessment. Difficulty managing IADLs is particularly common in early Alzheimer's and other dementias. Assessing IADLs can help guide a diagnostic evaluation, as well as determine what kind of assistance an older person may need on a day-to-day basis. As visual discrimination is involved in these activities, a visually impaired person cannot learn the same on his own. Through his other senses, he may get an idea of what is going on but he cannot learn the exact procedure. It has been

observed that loss of confidence associated with the loss of vision retards the daily living skills of such a person. At the same time, lack of opportunity and environment are also the major causes of restricted performance of such activities. Thus the major objectives or needs of imparting training in daily living skills should be to:

- enable him to carry out his day to day activities with the least possible external assistance and with safety;
- help him to be self-sufficient in all functional activities;
- in still confidence to enable him to be socially integrated;
- develop healthy personal and family relationships;
- learn scientific management of self and home;
- become aware of safety precautions to be taken in the home;
- become a well groomed person;
- reduce dependence upon the care-takers;
- expedite comprehensive rehabilitation including economic independence; and
- develop a positive self- image.

Acquisition of daily living skills refers to a child's ability to complete daily adult activities, including:

- Caring for personal health
- Managing money
- Taking care of personal needs
- Preparing food
- Caring for clothing
- Shopping
- Maintaining a living space
- Managing time

Evaluating the skills the child already has is the first place to start. Begin by assessing child's skills in the following areas and then target areas to work with your child to increase his or her level of independence:

- Gets self up in morning
- Maintains personal hygiene/grooming
- Selects appropriate clothing
- Dresses self independently
- Cares for personal hygiene and grooming
- Manages time effectively
- Meets schedules/attends appointments on time
- Performs routine household cleaning
- Does laundry
- Prepares simple or pre-packaged foods
- Manages money effectively
- Selects/shops for appropriate foods
- Finds appropriate source for varied consumer goods
- Dials telephone numbers
- Practices personal safety rules in all environments

Appropriately asks for assistance when needed Occupational therapists are often involved in helping students learn daily living skills.Activities of daily living (ADLs or ADL) are a term used in healthcare to refer to people's daily self- careactivities. The concept of ADLs was originally proposed in the 1950s by Sidney Katz and his team at theBenjamin Rose Hospital in Cleveland, OH and has been added to and refined by a variety of researchers since that time.[1] Health professionals often use a person's ability or inability to perform ADLs as a measurement of their functional status, particularly in regard to people post injury, with disabilities and the elderly.[2] Younger children often require help from adults to perform ADLs, as they have not yet developed the skills necessary to perform them independently. ADLs are defined as "the things we normally do... such as feeding ourselves, bathing, dressing, grooming, work, homemaking, and leisure."[3] A number of national surveys collect data on the ADL status of the U.S. population.[4] While basic definitions of ADLs have been suggested, what specifically constitutes a particular ADL for each individual may vary. Adaptive equipment and devices may be used to enhance and increase independence in performing ADLs.

Basic ADLs

Basic ADLs consist of self-care tasks that include, but not limited to:Functional mobility, often referred to as transferring (moving from one place to another while performing activities) For most people, functional mobility is measured as the ability to walk, get in and out of bed, and get into and out of a chair? the broader definition above is useful for people with different physical abilities who are still able to get around independently. Bathing and showering (washing the body), Dressing, Self feeding (not including cooking or chewing and swallowing), Personal hygiene and grooming (including brushing/ combing/styling hair), Toilet hygiene (getting to the toilet, cleaning oneself, and getting back up) One way to think about basic ADLs is that they are the things many people do when they get up in the morning and get ready to go out of the house: get out of bed, go to the toilet, bathe, dress, groom, and eat. Although not in wide general use, a mnemonic that some find useful is DEATH: dressing/bathing, eating, ambulating (walking), toileting, hygiene.

Instrumental ADLs

Instrumental activities of daily living (IADLs) are not necessary for fundamental functioning, but they let an individual live independently in a community: Housework, Preparing meals, Taking medications as prescribed, Managing money, Shopping for groceries or clothing, Use of telephone or other form of communication, Transportation within the community A useful mnemonic is SHAFT: shopping, housekeeping, accounting, food preparation/meds, telephone/transportation. Occupational therapists often evaluate IADLs when completing patient assessments. The American Occupational Therapy Association identifies 12 types of IADLs that may be performed as a co-occupation with others:Care of others (including selecting and supervising caregivers), Care of pets, Child rearing, Communication management, Community mobility, Financial management, Health management and maintenance, Home establishment and maintenance, Meal preparation and clean-up, Religious observances, Safety procedures and emergency responses, Shopping

Role of physical therapy

Physical therapists use exercises to assist patients in maintaining and gaining independence in ADLs. The exercise program is based on what components patients are lacking such as walking speed, strength, balance, and coordination. Slow walking speed is associated with increased risk of falls. Exercise enhances walking speed, allowing for safer and more functional ambulation capabilities. After initiating an exercise

program it is important to maintain the routine otherwise the benefits will be lost. Exercise for patients that are frail is essential for preserving functional independence and avoiding the necessity for care from others or placement in a long term care facility.

Assistance

Assisting in activities of daily living are skills required in nursing and as well as other professions such as nursing assistants. This includes assisting in patient mobility, such as moving an activity intolerant patient within bed. For hygiene, this often involves bed baths and assisting with urinary and bowel elimination.

Evaluation of ADLs

There are several evaluation tools, such as the Katz ADL scale, the Older Americans Resources and Services (OARS) ADL/IADL scale, the Lawton IADL scale and the Bristol Activities of Daily Living Scale.

Most models of health care service use ADL evaluations in their practice, including the medical (or institutional) models, such as the RoperLoganTierney model of nursing, and the resident centered models, such as the Program of All Inclusive Care for the Elderly.

3.5.2 Techniques of Teaching Age Appropriate Daily Living Skills

Activities of Daily Living (ADL) comprise everything entailed in human life and relationships. These are the basic activities necessary during an ordinary day. There are hundreds of activities which a person performs from the moment he wakes up in the morning till he goes to sleep at night. Sighted persons normally learn to perform these activities by themselves by observing other persons. A large part of daily living activities are learnt by observation and imitation.The area to consider when wanting to introduce Activities of Daily Living (ADL) into either a resource classroom setting or itinerant program is a foundation of Consistency and Developing Memory Skills. These skills are also fundamental in Planning and Organization. Consistency includes:

- The student is the one to determine the placement of items; some guidance may be offered to ensure that the student is not making more work for themselves by having to crisscross back and forth across the work area. Example, when doing dishes in a double sink, if all the dishes, to be washed, are setting to the right side of the sinks, then the wash water should be the first sink to the left, then the drying rack should be in the left-hand sink. Remember to be aware of and work

toward the student's dominant side. (left or right handed)The student should also be responsible for retrieving the desired object, not family, teacher aides, other classmates, or the teachers themselves.

- Developing the memory through practice. If the student has some memory problems (not cognitive impaired) then teaching some memory techniques can work. If a student does have some cognitive impairment then make use of tape recorders, braille or large print lists placed in obvious places to assist with the established systems. Planning and organization skills are not something that need to occur only at school. The organizational systems should begin at home.
- Understand and arrange for appropriate lighting for the low vision individual. Levels of Labeling Categories:

i. Permanent--appliances: microwaves, washers and dryers, stoves, etc.

ii. Reusable--kitchen supplies: canned goods, spices, different bottle shapes (ketchup versus mustard) similar shaped bottles, use olfactory to distinguish, such as salad dressings.

iii. Disposable--quick, one time read: post-it notes for large print or braille where it needs to be only used for short time, or one reading

iv. Tactual--for the non -reading student, use recognizable shapes to specify items, such as a shapes, circle, square, or triangle. Rubber bands, held in place with masking tape, even if bands break the tape holds them in place for counting purposes.

- **Home Systems:**

1. Clothing--Group long sleeve shirts, short sleeve shirts, casual clothes, and dress clothes into separate parts of the closet. Label the clothes with some tactual means of identification that will go through the laundry safely and intact. and intact. For example, sewn-in braille colour tags, crimped safety pins in a specific design, sewn-in number of buttons that means blue, red, yellow, etc., with a secondary means of knowing whether there are stripes or patterns to the outfit.
2. Sock locks--Means of keeping pairs of socks together, during washing, or socks that are tactually identifiable from other socks, minimize the number of different colour socks. If a student has memory problems with these systems, the above mentioned taped, brailled, or large print list can be placed in an adjacent location,

taped to the wall, on a shelf in the closet or in a drawer in the room. This establishes a pattern of consistency.

- Food and canned goods: Labelling foods, canned goods have the opportunity to have reusable labelling systems. For instance, a rubber band, a brailled strip of paper with a hole punch, will allow a student to identify items in the cupboard, use them, remove the label and place it in a box for later use. This placing in a box also provides a grocery list. The labels can be taken to the grocery store and provide the list and place the label on the items as they go into the basket. This way when they return home it is already labelled while at the store.
- Planning is in large part an exercise in problem solving. The first step in problem solving is to realize that you have a problem, then to determine all the options that might solve the problem. Once all the options have been identified, then the options can be reviewed for disadvantages and advantages. Once these have been reviewed there are usually several final choices for one to choose from. This latter part is important for if another person is involved in solving this problem, they are always more receptive in working out the problem if they have choices. This system has been named SODAS. Identifying the problem is the Situation Options is the brainstorming phase, Disadvantages and Advantages is obvious and Solutions are the choices for solving the problem.
- Curriculum Connections: integrate the curriculum with the various ADL skills. There will be overlap between the various areas.

➢ Math:

1. Measuring: reading recipes utilizes fractions, 1/4 cup, teaspoon, etc., plus, literary or Nemeth Code, reinforcement.
2. Setting timers teaches 15 minute versus quarter hour, time telling skills, etc.
3. Time and distance: Planning for the grocery store trip, how to get there, how long it will take to get there, learning and understanding bus schedules if applicable. Coordinate with O&M instructor.
4. Budgeting: figuring costs, taxes, learning about product brands, coupons, use of abacus, talking calculator, etc. creating a check register or use of a talking check book program.
5. Technology: shopping online, Pea Pod, using the calculator of a portable electronic note taker.

- Science:

1. Cleaning supplies: teach how to use for directional sprays, what is dangerous if ingested, gets into eyes, organized patterns, circular or overlapping patterns, etc. Natural cleaning supplies, such as vinegar, baking soda, club soda, etc. can be a good alternative.
2. Effects of temperature on foods, best storing methods, melding of long kept foods.

- Reading:

1. Reinforce braille reading and writing skills: create the menu, reading and writing the recipes, reinforces literary or Nemeth Code. (Use thermoform paper to write recipes so that any cooking materials can be washed off.)
2. Use technology to search for recipes either on a CD or Internet.
3. Creating the shopping listbraille or large print reinforcesspelling skills.
4. Use of low vision aids and appropriate lighting for reading stove temperature, recipes, etc.

- Social Studies:

1. Different Nationalities: research about different cultures, their foods, Holidays through the year as themes for the cooking experiences.
2. Repetition of activities: slicing, dicing, peeling and paring of vegetables, remember one experience is not likely to make the students skilled in the activity.
3. Technology: research through CD based books, or the Internet.

- Language Arts:

1. Spelling and grammar: Involve the students in the writing of letters, requests for small grants, the thank you notes once a grant is secured. (See section on funding.)
2. Signature and handwriting: This for writing checks, signing for credit cards, etc.(Begin this at the same time sighted students are learning their letters and cursive, much easier to convince at that age, then later.)

- Preparation options:

1. Coordinate with the Home Economics department to make use of the kitchen.
2. Electric skillet: can be done in the resource classroom, can prepare a wide range of dishes in this fromscrambled eggs to hamburgers, to chicken, etc.

3. Microwave cooking: This offers a wide range of choices and can meet different student skill levels; it will incorporate many of the above skills as well.
4. Toaster ovens or specialty devices, like pizza makers, cookie ovens, George Foreman Grills, etc. (see funding options for more information).

- Eating Skills: This doesn't fall under any specific traditional educational curriculum, but is a critical skill to possess. Once the cooking has occurred in a classroom the students need to have experience with cutting meat, spreading condiments, etc. Play Dough can be used as the on-going cutting experience, spreading butter on a cracker, etc.
- Restaurant excursions: Sit down restaurant, not fast food. Can order off menu, no finger foods, can order hamburger, but must take off bun and use knife and fork. Budgeting for their meals, including tax and tip (math skills).
- Menu reading and understanding: this could be in braille, using low vision aids, or in some cases using access technology to read the restaurant web site menu, prior to arriving at the restaurant. (This may involve VI teacher securing the print menu prior to excursion and preparing it in braille ahead of time.) Coordinating with the O&M instructor to plan the bus, train, or walking route with appropriate students. While the others, need to learn to negotiate the cluttered environment of the appearance of randomly placed tables and chairs. Low vision students dealing with the potentially inadequate lighting for locating a table and reading menus. This could then bring out the advocacy skills of a student to request assistance of the restaurant staff for sighted guide.
- Technology: research for local addresses, through the phone, web site, or phone book with a Video magnifier. Use the technology to write the request, printing out in braille or large print for proofreading purposes and use of spell checker. Involve the parents whenever possible to observe how the students learn the different skills for follow up at home.
- Itinerant Programs: Many of the same content listed above can happen in an itinerant program, but the difficulty comes when trying to take the time out of the regular class day. Some VI teachers arrange for a specific time in the day where they have the student outside of the regular classroom when some of these activities could occur. Coordinating with the home economics teacher for the use of the kitchen or at least part of it.

Thus activities of daily living include all those activities which people do every-day. Training a visually impaired person in these activities would enable him to become self-reliant, independent and more confident in his routine activities. Although these activities are not an end in itself, these certainly are a very essential means toward complete, meaningful and comprehensive rehabilitation.

- Daily Living Devices

These devices can be further classified into the following five categories:

- Clocks and Watches
- Games and Puzzles
- Sports
- Kitchen Equipment
- Personal Devices

Clocks and Watches:

Alarm Clock: A standard alarm clock adapted for the use of the visually impaired. It has strengthened hands and an open plastic dial having the hour positions indicated by two raised dots at the 3, 6, 9, 12 positions and single dots at the remaining hours.

Pocket Watch: A hunter watch, the hinged cover of which opens when the winding knob is depressed. Fitted with strengthened movements and dots as mentioned earlier.

Ringer Timer: A one-hour ringer, in streamlined plastic case for timing any operation where an audible reminder is required. Each five minute period is indicated on the embossed setting dial by two dots and the first quarter hour is additionally marked to show the individual minutes.

Talking Time: This is an electronic watch as well as alarm clock fitted with an electronic device which announces the time whenever the knob is pressed. It is possible to set time, date, day and alarm etc. All the settings are audible in signals, it is thus possible for a visually impaired person to do the setting himself.

The most popular brands are Sony and Sharp. In India,

Games and Puzzles:

Playing Cards: Superior quality standard playingcards with the reverse embossing in standard Brailleon the top left corner.

Chess: A wooden board with the black squaresraised and all the squares drilled in the centre for thereception of the pegged chessmen. Holes are providedat each end for pieces not in play. The pieces are ofuniform height, the white having a point at the top todistinguish them from the black.

Dominoes: Made of plastic and having raised blackdots on a white background with black inset pieceson the reverse. These dominoes are ideal for playerswith low vision also.

Brahma Puzzle: The puzzle consists of three pegs on a wooden base and eight discs of different diameter each with a hole in the centre. The purpose is to transfer all the discs from the peg to another without allowing any disc to be placed over a smaller one.

Audible Ball: Made of strong good quality rubber in which holes have been punched. Small metal balls are inserted for creating sound enabling the ball to be located when in play.

Draught Board: A wooden board with sunken playing squares. The colours of the men are distinguished by size. Pieces of double thickness are used as kings. A variety of other games as listed below have also been adapted for the visually impaired: Bezique Maker, Bridge Scorer, Lexicon, Happy Family, Whot, Patience Board, Chess Clock, Jigsaw Puzzle, Electronic Ball, Beetle Game, Centre-peg, Dice and Dice Cup, Nine Men's Morris, Scrabble, Unilock Word Building Device, Tic-Tac-Toe, Checkers Set, Rattle Bells.

Sports:

Football, Basket Ball and Soccer Ball: These are equipped with a small electronic beeper which is battery powered and emits a compact sound. The beeper is held within a moulded cavity designed for easy access to 'on & off' switch.

Stick Walking: The ordinary strong bamboo sticks with foot rest at a height of 30 Cms from the ground can be used for training the visually impaired in stick walking.

Swimming: is also emerging to be a popular sport among visually impaired persons. The normal swimming pool with sound indicators on the sides can be used for training them in swimming.

Athletics: The normal track with some precautions and safety measures can be used for training the visually impaired in race, shot put, javelin throw, bag-walk, musical chair, hit the target etc.

Table Tennis: has become a popular in-door game for the visually impaired in many South-East countries.

The normal table tennis table with some modifications in the net and the sides can be used for the purpose.

Kitchen Equipment

Equipment Adapted for the Visually Impaired:

i. **Egg Poaching Ring:** An adaptation of standard egg ring to enable visually impaired persons to fry or poach eggs, and to serve them easily. It has a handle vertically attached to the egg ring.

ii. **Measuring Jug:** A heat proof clear glass jug of standard capacity with raised markings inside to indicate the specific volume. With the use of fingers, a visually impaired person can measure the volume.

iii. **Bread Cutting Box:** An adjustable slide is fitted to gauge thickness of the slice. It enables visually impaired persons to cut the loaf of bread into even slices using a standard bread knife.

iv. **Liquid Level Indicator:** A simple electronic device, powered by a battery, enables a visually impaired person to ascertain the level of liquid being poured into a cup. It emits a sound signal when a particular level is reached.

v. **Self Adhesive Labels:** These plastic labels can be embossed with Braille and used for labelling a wide variety of articles.

vi. **Open Market Products with Special Relevance for Use by the Visually Impaired:** Tomato Slicer, Chilly Cutter, Kitchen Helper, Vegetable and Fruit Scrapper, Multi-purpose Scrapper, Egg Beater-cum-Juicer, Gas Lighter, Milk Cooker, Pressure Cooker, Jar & bottle opener, Pan holder.

Personal Devices

i. **Sound Beacon:** This pocket size electronic device emits a sound which can be varied from a loud continuous whistle down to low intermittent beeps at various rates. It is generally used as a homing device.

ii. **Notex:** It consists of a rectangular base and flaps made of high-density polythene hinged together. It differentiates Indian currency notes of different denominations. It considers length and breadth of a currency note for its differentiation.

iii. **Magnets:** Round, square and U-shaped magnets for picking up pins, small nails and other iron or steel objects.

iv. **Signature Guide:** A template to guide the visually impared persons in placing signature in proper position on letters, cheques etc.

v. **Address Templates:** Made of cardboard with four raised lines to guide a visually impaired person to write his address on Inland letters and envelopes.

vi. **Light Probe:** Full function light detector may be adjusted for desired sensitivity to light.

vii. **Location Finder:** Find your house, apartment, or office easily with portable, light weight location finder.

A siren, attached outside location, will sound on pressing transmitter attached to a key chain.

viii. **Other Personal Devices:** The American Foundation for the Blind and Maxi Devices are supplying a variety of personal devices for the visually impaired persons as listed below. These are so far not available in India. Like- Thermo Voice: announces temperature, Talking Blood Pressure & Pulse Monitoring Kit, Becton Dickinson Magni Guide: for accepting barrel of insulin syringe, Insulin Needle Guide, Talking Blood Glucose Monitoring Kit, Big Print Address Book, Talking Wallet, Locklid Saucepan, Weight Talker, Keyfinder, Clothing Identifiers, Tactile Braille Signs, Eye-Ease Eye drop Guide, Medicine Spoon

❖ **Training Strategy**

Due to lack of visual perception as well as discrimination, it is difficult for a visually impaired person to learn daily living skills on his own. As most skills are of a routine nature, he does not need to learn any special techniques for performing these skills. However, it is essential to train him for the particular procedures involved in performing the activity. In swimming, for example, he has to follow the same steps as a sighted person but may need to be given special training in safety matters. Many times, special techniques or special equipment or adaptations may help him to perform certain activities more proficiently. These techniques or adaptations make use of other senses of touch, hearing, and taste etc. for his convenience. By using a Talking

Clock, for example, he may know the time, day and date as conveniently as a sighted person.

Procedure for Designing the Daily Living Skills

a. Observe daily living skills of sighted persons of different age groups.

b. Identify the difficulties faced by a visually impaired person in performing such activities and learning the skills.

c. Develop specific procedures for each skill with suitable modifications.

d. Consider the following aspects concerning visually impaired persons while evolving the training schedule: individual felt needs, physical potentials,age, age at the on-set of visual impairment, family background, economic status and occupation, environment, and past experience

e. Explain the procedure followed by sighted persons in performing a particular activity to visually impaired persons.

f. Impart relevant training in orientation and mobility associated with the effective performing of a particular activity.

g. Supplement the skills with appropriate assistive devices and adaptations.

h. Incorporate an in-built system of monitoring and evaluation of the training programme.

i. Adopt a system of follow-up for sustaining the abilities to perform the activities.

Specific Rules for Teaching Daily Living Skills

a. Gather the relevant and needed following items before initiating the training: All materials, Equipment Special assistive devices and adaptations and Embossed diagrams and tactile adaptations

b. Perform task analysis for evolving the proper sequence; deciding the procedure of performing the activity; and finalizing the lay-out and positioning of the material and equipment.

c. Orient the person regarding location of the materials; procedure of taking and replacing the same; hand co-ordination; sequence of various operations; safety measures; use of equipment and adaptations; and safety measures.

d. Ensure appropriate use; safety of the individual; no damage to equipment; and least possible wastage.

e. Supervise during the performance of the procedure and provide instructions whenever essential.

f. Follow-up, evaluate and appreciate good performance.

Example: Preparing a Cup of Tea

Step 1.Collecting the Material and Equipment

a. Material: milk, sugar, water and tea leaves

b. Equipment: stove/cooking gas and kettle/utensil, cup, strainer, table spoon

c. Adaptations (optional) for:

- measuring volumecan be easily developed locally kitchen utensils can be used
- indicating boiling liquid can be developed on the lines of pressure milk boiling pot by sound
- sugar measurecommonly used spoon in the house

Measuring devices are available abroad but are very expensive and not advisable for developing countries. It is best to teach how to use utensils and other Items which are used by the general population. Thus adapting techniques to suit visually impaired person would be necessary. Most adapted material like measuring and pouring devices (to name a few) are generally expensive and not easily available, the majority of visually impaired persons would have to learn to utilize the existing and available equipment after careful sensory training.

Step 2. Task Analysis for Evolving the Procedure

On task analysis, the activity of preparing a cup of tea can be divided into following tasks:

Pouring Water

1. Lift and scrub kettle/utensil
2. Fetch water
3. Measure water
4. Pour water into kettle/utensil

Making Fire

5. Locate stove/gas stove

6. Lift match box/gas lighter with one hand
7. Hold match box/gas lighter in one hand
8. Pour kerosene by pressure in case of stove or switch on gas stove
9. Strike match or press lighter
10. Make fire by holding match or lighter near the stove/gas stove

Boiling

11. Lift kettle/utensil
12. Position the kettle/utensil on stove/gas stove
13. Cover the kettle/utensil with the lid

Adding Tea Leaves

14. Lift the container containing tea leaves
15. Open the lid
16. Fill a spoon with tea leaves
17. Remove the lid when water is boiling and add tea leaves
18. Replace the container back to its original position

Adding Sugar

19. Lift sugar measure/ If it is not available, lift the sugar container

b. Fill a spoon with sugar

20. Add sugar by tilting the measure (or from the spoon)
21. Replace the sugar measure (or sugar container) to its original place

Adding Milk

22. Take milk pot
23. Measure the desired quantity using a measure or a cup
24. Pour milk into the utensil/kettle
25. Cover the utensil/kettle
26. Replace the milk pot to its original position

Pouring Tea

27. Wait for the tea to boil
28. Switch off the stove/gas stove to put off fire
29. Wait for two minutes
30. Bring tea-pot near the stove
31. Remove lid of the tea-pot
32. Lift strainer and place it on the tea-pot
33. Remove lid of the kettle/utensil
34. Lift the kettle/utensil off the stove/gas stove using cloth or clamp
35. Pour tea into the tea-pot through the strainer
36. Cover tea-pot with lid
37. Place the kettle/utensil, strainer and clamp in the sink for washing
38. TEA is READY for serving.

Serving Tea

39. Hold handle of the tea-pot in the right hand
40. Touch the cup with left hand and keep first finger on outer side of the top of the cup
41. Lift tea-pot with right hand and bring the pouring point over the cup.
42. Start pouring till first finger of the left hand feels hot.
43. Leave the tea-pot back with right hand, lift cup with right hand itself and drink tea.

Step 3. Time Study for Deciding Location of Various Materials and Equipment

Consider the following pre-requisites of efficient production performance while evolving the most appropriate location pattern:

a. All materials and equipment should be within arm's length
b. Left hand should move clockwise and right hand anti-clockwise while lifting materials and equipment etc. and in the reverse direction while keeping it back.

c. Positioning should be according to sequence of the tasks to be performed. The kettle/utensil, for example, as required first should be at the left extreme; and water as required next should be on the right extreme

d. Safety of the person should be ensured while performing the activity

e. Overlapping and cris-crossing of materials and equipment should be avoided. Based on time study, task analysis and other principles of production and operations management, the location pattern as given in the figure may be evolved.

Step 4. Orientation

- explain location of materials and equipment to a visually impaired person
- enable him to touch all these things
- explain him the relative positioning of these things in the context of the entire room and his own self.

Step 5. Explaining the Procedure

- explain all 43 tasks involved in the process
- explain the sequence of the tasks
- explain the need for following the sequence correctly, safety measures and likely eventualities.
- explain the procedure for measuring water, sugar and tea-leaves
- explain the procedure of pouring hot liquid

Step 6. Performing the Activity

- supervise while a person is performing the tasks
- instruct him as and when required
- advise him to repeat the task whenever correct sequence is not understood or being followed
- follow-up the process.

Hand Movement: The hand coordination based upon the above noted task analysis, positioning of equipment and materialsand sequence of tasks in case of preparing a cup of tea is aslisted below:

Task No.	Hand	Activity
1.	Left	Lift the kettle/utensil
2.	Both	Measure and pour water
3.	Left	Lift match box/gas lighter
4.	Both	Light the stove/gas stove
5.	Left	Lift the lid and coverkettle/utensil
6.	Right	Lift tea-leaves container
7.	Both	Add tea leaves to kettle/utensil
8.	Right	Lift stirring spoon
9.	Left	Lift sugar measure/container
10.	Right	Add sugar to kettle/utensil
11.	Right	Measure and pour milk
12.	Left	Lift tea-pot
13.	Right	Lift strainer
14.	Both	Position tea-pot with strainer on top
15.	Right	Lift kettle/utensil
16.	Both	Pour tea into the tea-pot
17.	Right	Place kettle/utensil, strainer in the wash basin
18.	Left	Lift tea-pot
19.	Right	Pour tea
20.	Right	Returning tea-pot to its position
21.	Right	Lift cup and DRINK tea.

Step 7. Follow-up and evaluation in terms of

- correct sequence
- convenience in handling equipment and materials
- pouring of tea leaves, sugar, milk or tea etc.

- correct measurement of materials
- speed of handling the tasks
- confidence while performing tasks
- any unnecessary delays, confusion, criss-crossing,
- over lapping of tasks and collision of equipment

" uniformity in operations and sequence when thesame activity is repeated

By following this procedure, activities of daily living, self- care skills and systems of home economics can be modifiedsuitably to enable a person to perform the same independently.

" Training Content

To enable a visually impaired person to be independent inthe activities of daily living and home economics, trainingshould be imparted in the aspects described below. The activitiesmay be adapted to suit the needs of visually impaired personsof rural and urban areas. The principles are the same but minormodifications may be necessary.

Personal Care

a. Hygiene

- bathing
- care of hands and feet
- cleaning of ears
- nail cutting
- oral hygiene: manage toothpaste, brush teeth
- personal hygiene

b. Grooming

- combing and care of hair
- dressing and undressing
- shaving, using facial cream
- skin care, applying cosmetics
- female grooming and hygiene

- using hair oil, cosmetics

c. Social Graces

- social manners, etiquette , courtesy
- table manners, eating habits with fingers,spoon etc.
- style and mode of dressing
- postures while sitting, standing and talking
- gestures
- gait
- socializing, art of conversation

d. Toilet Activities

Cooking Skills

a. Orientation of

- kitchen equipment, utensils, knives
- weights and measures and modificationsin techniques
- special adaptations
- grains, pulses, vegetables, flour, spices andprovisions
- different parts of stove, fuel, fire place
- gas lighter, match box

b. Preparatory Operations

- cutting, slicing, peeling, pouring
- grinding, mixing, kneading, grating
- washing, cleaning, soaking, scrubbing
- sieving, filtering, straining
- rolling bread and roasting
- boiling, frying, baking
- making fire, lighting stove or cooking gas
- operation and care of stove/gas stove

- setting curd, preparing butter milk
- steaming and pressure cooking

c. Serving Food

- taking out food in serving bowls
- setting dining table or arranging on floor
- putting food on dining table/floor
- following clock-wise method of putting food in plates
- serving water
- removing bowls, plates and cleaning table

House Keeping Skills

a. Cleaning

- sweeping, dusting
- washing, scrubbing, mopping floor

b. Care of Furniture

- dusting
- washing of upholstery
- wiping of table tops
- keeping furniture at fixed locations
- hanging curtains

c. Laundry

- sorting, washing, drying
- folding, ironing, proper stacking
- mending, stitching, buttoning, darning

d. Washing Utensils

- sequence in scrubbing and washing
- use of cleaning powder and scrubber
- disposing off waste

- drying utensils
- replacing utensils at pre-determined locations
- special care of crockery

e. Bed-making

- location of cots
- adjusting of mattresses
- spreading of bed spreads
- positioning of pillows, blankets and bed sheets

Home Economics

a. Money Management

- currency identification, coin counting
- safe keeping of money
- budgeting for the month
- simple account keeping
- savings and investment
- maintaining and operating a bank or postoffice account
- depositing or withdrawing money
- signing of cheques
- knowledge about interest

b. Time and Energy Management

- time and routine activity planning
- leisure time planning
- work simplification techniques
- process of cooking, heating water and lightingfor energy conservation

c. Furnishing the Home

- selection and arrangement of furniture, furnishings and decoration articles
- proper lighting and ventilation

- proper placing of calendars, pictures, idols and other decorative articles
- positioning of wall clock and alarm clock

d. Shopping Techniques

- quality of products
- types of shops and their location
- system, period and frequency of buying
- benefits of bulk buying
- awareness of mal-practices in faulty weights and measures; deceptive packaging and adulteration
- consumer rights and responsibilities
- method of using shopping bags
- sequence in stacking of items in the bag

e. Using Appliances

- electric switches, plugs, fan regulators
- telephone
- call bell
- oven, refrigerator, toaster, mixer, geyser, pressure cooker
- cassette player, radio, television
- shaver

f. Care of the Home

- sweeping and mopping floors
- repair & maintenance of doors, windows, furniture & fixtures
- proper placing of furniture, TV, other appliances etc.
- keeping doors and windows properly closed or opened to avoid protruding shutters
- white-wash, painting of walls etc.
- polishing, painting of doors, windows, furniture & fixtures
- proper arrangement and parking of vehicles
- keeping movement areas free of obstructions.

- Training in Individual Activities

Bathing techniques are the same for both sighted and the visually impaired. However, training in following aspects shouldbe provided:

- Orientationof the bathroom or bathing place, hanging clothes and towel, place for keeping soap, bucket, tumbler etc.
- method of fetching water and its source
- safety precautions
- steps to be followed.

Brushing Teeth techniques are the same for both sighted and the visually impaired. The main difficulty may be applying tooth paste on the tooth brush. The following steps may be followed for this purpose:

- Hold brush in the left hand with bristles upward between the thumb and the forefingers.
- Open the lid of the tooth paste with the thumb and the first finger while holding the same in the right hand
- Hold tooth paste tube in right hand and place the opening at end of the bristle
- Squeeze the tube so that tooth paste comes out and move it along the bristles taking care thatthe tooth paste does not fall on clothes or the ground.
- Replace the cap while holding the tube in right hand and replace the tooth paste to its original position.
- Shift the brush to the right hand and rinse the bristles with water
- Brush the teeth by moving the bristles up and down over the teeth and gums
- Wash the brush while holding the same in right hand and replace it to its original position
- Use left hand for taking water to the mouth for gargling and repeat it twice.

Shaving technique is the same for both sighted and the visually impaired. However, the latter should be slow, more careful and observe the following precautions:

- Double-edged safety razor is more safe
- Downward movement of razor is advisable and the same pattern to be followed every time

- Check with the hand if all areas of the face have been shaved properly
- Electric shaver is safe and convenient but very expensive

Washing Clothes

- Gather material: soap, detergent, tub, brush, dirty clothes etc.
- Organize the material: place tub in the centre, dirty clothes on the left hand side, soap, detergent on the right hand side and source of water supply should be above the tub or nearby
- Apply soap on clothes, rub gently and soak in the tub
- Remove soap by rinsing clothes in water
- Squeeze and wring the clothes to remove water
- Clothes should be dried by spreading on a clean place or by hanging on a clothes-line

Identifying Clothes

- By the material they are made of
- By design, tailoring style, pattern etc.
- By special markings in braille or otherwise which can be identified by touch
- By stacking at a particular place in a particular pattern

Money Identification

Coins:

Coin /Paise	**Identification**
5	Square
10	round with deep scallops on sides
20	Hexagonal
25	round, very thin, one centimetre diameter
50	perfect circle with plain circular boundary
One Rupee	perfect circle, bigger and thicker than the 50paise coin, circular boundary has a all central round groove

Currency Notes: It is generally difficult for a visually impaired person to identify the currency notes. In India, currency notes of one, two, five, ten, twenty, fifty and hundred are common. The rupee one and two notes are almost of the same size. Other currency notes are bigger. These notes can be identified by using the following methods:

a. **Notex:** is a device developed by the NAB-Louis Braille Memorial Research Centre. It holds the currency notes in two flaps and the same is identified by the notches on the upper flap.

b. **Folding around the Wrist:** This method is advocated by the officials of the National Association for the Blind, Rural Activities Committee. The visually impaired person can be trained to identify a currency note by folding it around his wrist and then determining the denomination by the extra length after the first fold. The width of the note is also considered.

c. **Spreading along the Palm:** In this method the currency note is spread on the palm of the left hand from the wrist downward. The denomination of the note is determined by the point on the fingers at which the other end touches. The width of the note is also considered.

d. **Thickness of the Note:** may also enable a person to identify the currency notes. The crispness is also considered. In case of old currency notes, this method may be misleading.

Special Dot on Rs. 500 Note: The Rs. 500 currency note introduced during 1999 carries a round embosse dot at the periphery on the lower side of smaller arm. A visually impaired person can identify Rs. 500 note by locating this dot through finger movement on the outer side.

A visually impaired person has to develop his own individualized sense of recognition based on the above. No blanket approach is viable or advisable.

Pouring Liquids

Pouring liquids requires good eye-hand coordination. A visually impaired person needs proper training to overcome the limitation imposed by blindness.

a. Cold Liquids

- Hold the tumbler near the tip of the jug containing cold liquid
- Place index finger inside the tumbler

- Pour liquid slowly till it touches the finger

b. Hot Liquids

- Hold the cup near the tip of the tea-pot containing tea
- Place index finger on the rim of the cup
- Pour liquid slowly till it is sensed that the cup is full: by feeling the steam on the index finger, by realizing that the outside of the cup is hot, by feeling the difference in the weight of the cup, by hearing the change in sound associated with filling of the cup to the brim

Making Open Fire

In rural areas, the most common mode of making fire is an Angithi, Chullahor open space covered by bricks and mud.

- Clean the open space
- Pour kerosene on cow-dung cake or a dry wood
- Stack small wood pieces over and around the cow-dung cake with air gaps
- Light a kerosene lamp - the lamp generally has a metal or glass bottle for storing kerosene and lid into which a wick is embedded. One end of the wick protrudes outside and the other is soaked in the kerosene.
- Make fire by taking burning wick of the kerosene lamp near the stacked wood and cow-dung cake which has been sprinkled with kerosene
- Remove wood pieces or other like objects from near the fire place
- Keep on adding wood or cow dung cake as required
- After cooking, put off fire using water
- Check by moving hand close to ash that no livecoal or burning wood is left.
- As far as possible, no inflammable material should be kept near the fire place

Lighting a Stove

- Pour kerosene using a funnel and a standard bottle for measurement.
- Difference in sound or weight would in dictate when the stove is almost full.
- Wipe away any spilled oil to make the stove safer.

- Clean the burner nozzle using the stove pin.
- Pour kerosene in the cup below the burner.
- Use a safety match for lighting.
- Use stove lighting ring, which is easily available in the market, for lighting the stove.
- Operate the pump two minutes after lighting the ring to vaporize the kerosene and activate the burner.
- Sound of the burner indicates intensity of fire.
- Release pressure to reduce intensity of the fire or to putit off.

Lighting Gas Stove

For safety, the gas regulator which is mounted on the cooking gas cylinder should always be switched off. The knob of the regulator should be turned anti-clockwise till it touches the lower circle of the regulator.

The following procedure is recommended while lighting the cooking gas stove:

- Check that the knob of the regulator is in off position
- Check that the rubber tube is well connected at both the ends, i.e. regulator as well as gas stove ends.
- Check that the knob of the gas stove is in off position.
- First of all, twist the knob of the regulator clockwise till there is click sound.
- Hold the gas lighter in right hand, keep its front part on the gas burner and keep the thumb on the lighter knob
- With the help of left hand, move the knob of the gas stove clock-wise, only one step to slow position, to start the flow of the gas.
- Simultaneously, ignite the lighter by pushing its knob by the use of thumb of the right hand.
- Move the left hand little above the gas burner to ascertain where the gas starts burning.
- There is "Bhuup" sound when the gas is lighted.

Precautions:

- Always keep the lighter on the right side of the gas stove, preferably stuck to the wall at a arm's distance.
- Keep the regulator in switched off condition when gas stove is not in use.
- If there is a foul smell which indicates gas leakage, move the knob of the gas stove anti-clockwise and close the regulator also.
- Do not make fire till the smell persists.
- While lighting the stove, the knob of the gas stove as well as lighter should be operated simultaneously to prevent flow of un-burnt gas.

Switching off the Gas Stove: The following procedure is recommended for this purpose:

- Move knob of the gas stove with the right hand anti-clockwise till the lower end.
- Take left hand on the burner to ensure that fire has completely disappeared.
- Move the knob of the regulator anti-clockwise till there is click sound and upper ring of the regulator moves downward.

Eating

- Avoid serving food by keeping the meals plate on the ground, if possible
- If dining table is not available, use a stool or a raised wooden platform (chowki)
- It is easier for the visually impaired person to locate food if it is always placed at the same spot and served in familiar utensils
- It is more convenient and desirable to prepare the plate with vegetables, rice, chapatietc.
- Serve food according to the dial of a clock as indicated below:

The following hours of the clock positioning of various items of standard Indian meals is recommended. It may be suitably modified according to the menu and the individual needs:

- Water glass should be on the left hand side outside the plate.
- Vegetable bowl should be on the left side outside the plate.
- It is easy for a person to feel what food he is eating and how much, if he eats food with his fingers.

Clock Position	Item
1-2 O'clock	Sweet/dessert
3 "	Chapatti(bread)
4 "	Curd
5 "	Gravy
6 " & Centre	Rice
7-8 "	Pulses
9-10 "	Vegetables
11 "	Pickles
12 "	Salad

- The proper way to hold and use a spoon and a fork is the same for both the sighted and the visually impaired. Generally the fork is held in the lefthand and spoon in the right.
- The system of coordination of fingers is the same for both the sighted and the visually impaired.
- It is essential to maintain a proper posture while eating.
- The local manners and customs which are to be observed while eating must be taught to the visually impaired.

First Aid

a. Definition: It is the first help given to an injured person or to those taken suddenly ill before taking them to a health centre or hospital.

b. Objectives:

- to save life
- to prevent injuries becoming worse
- to help recovery

c. Importance: Many a times, while performing activities of daily living, travelling, moving around or in the course of employment, a visually impaired person may injure himself. Particularly when moving in an unknown environment, he may

bump into some obstructions, walls, household articles, parked vehicles etc. At such time, immediate medical care may not be available. If he is trained in First Aid, he will be able to take immediate measures and prevent injuries from becoming worse.

d. First Aid Kit: should contain the following:

- Bandage
- Cotton swab
- Scissors
- Antiseptic material like Dettol, safeguard etc.
- Band-Aid
- Brunel
- Simple medicine like Analgine, Metacin etc.

e. Illustration: First Aid in case of bleeding

- Apply steady and very firm pressure directly over the bleeding
- Make the injured person lie down
- Lift up the injured organ
- When the bleeding slows, apply a pressure bandage over a pad

f. Training: During training in Activities of Daily Living, 2-3 lectures on First Aid should also be included. A local physician, or qualified health worker or the officials of the Red Cross may be invited for this purpose. The field staff in turn should train the visually impaired person in First Aid. He should be encouraged to keep a First Aid Kit in the house or at the place of work.

- Nature of Training in Activities of Daily Living in Indian Conditions

Irrespective of the age of the person or the different customs or the different economic strata a person may come from, there are certain common basic daily activities for everyone. It is possible to do classification according to age groups for providing training in the activities of daily living. It is, however, essential to consider the following aspects while planning training in activities of daily living:

- Specific felt needs
- Family back-ground

- Past experience
- Physical potentials, and
- Educational background of the individuals.

It has been observed that it is essential:

- to provide training in natural settings as simulating conditions may not be result oriented;
- to support such training with relevant training in orientation and mobility and sensory perceptions;
- the training should be considered an integral part of all subjects taught to the visually impaired; and
- in case of a visually impaired child, it is essential to train the parents in basic skills so that they may in turn teach these skills to the child when he is at home.

The training needs can be classified according to age groups.

Age Group 0-16 Years

a. Personal Hygiene

- bathing
- toilet training
- oral hygiene: dental care, brushing teeth, keeping brush at proper place
- nail cutting
- cleaning ears

b. Grooming

- care of hair
- shaving
- putting on clothes, buttoning them properly
- wearing footwear

c. Social Graces

- holding of meals plate, eating without spilling food
- positioning of glass, drinking cold and hot liquids

- use of spoon, if applicable
- table manners, proper posture and gait

d. Cooking Activities

- lighting of stove, making fire
- general cooking skills, cooking vegetables, pulses
- preparing tea, coffee and boiling milk
- rolling and roasting chapati
- using frying pan, kettle, utensils
- boiling of rice

e. Preparatory Kitchen Activities

- washing and cutting of vegetables
- kneading dough
- setting curd and preparing butter milk
- preparing salad

f. House-Keeping Skills

- scrubbing and cleaning utensils
- d rying and stacking utensils
- cleaning, dusting and mopping floor
- washing clothes in the house, at the pond and the canal
- adjusting house-hold things
- making and folding bed and bed linen
- positioning and removing cots

g. Home Economics

- currency identification
- counting of coins and currency notes
- safe keeping of money, maintaining accounts
- understanding barter system

- preservation of grains etc.

h. School Activities

- understanding and proper upkeep of the school uniform
- maintaining proper posture in the school
- playing common games: stick walking, carom, chess, playing cards
- keeping pocket money carefully
- proper handling of school bag, books and stationery
- memorizing poems, songs and lessons

Working Age Group 17-60 Years

The visually impaired persons of this age group are in the prime of their life. They are expected to be the earning members of the family. They must be economically rehabilitated. Hence, the training in activities of daily living must focus at enhancing their earning capacity and their integration into the mainstream of society. The training in activities of daily living which is provided to visually impaired persons in the age group 0-16, as listed earlier,should be provided to the persons in this age group also with the exception of training in school activities. The additional components of training for this age group are listed below

i. Social Graces

- social manner, etiquette and graces
- posture while at work and while talking
- polishing and maintaining of shoes
- sense of dressing according to the occasion
- skills of developing inter-personal relations

j. House Keeping Skills

- washing floor, covering it with cow-dungand mud
- pounding and grinding grains and spices
- cooking handling, proper keeping and preservation of food articles, pickles, spices and like materials
- fetching water from the well and storingthe same in pots

- making open fire
- boiling pulses in earthen pots
- washing utensils at the pond
- taking care of the children and the elderly
- threading needle, elementary darning and mending of clothes; stitching of mattresses, quilts, pillows

k. Shopping Techniques

- purchasing vegetables and provisions from a nearby market or the weekly rural market
- verifying quality of vegetablesand fruits
- safe keeping of money at proper place in the house

l. Economic Activities

- going to farm independently
- learning to perform economic activity in terms of local crafts, trades or agriculture operations
- buying of raw materials and selling of finished products
- performing of social obligations
- taking care of domestic animals
- feeding, grooming, milking and grazing of milch animals

Age Group: 60 Years and Above

Due to physical constraints, most of the persons in this age group can- not undertake laborious work. Thus the economic and production activities have a very limited scope. It is, however, desirable to plan for their social integration. It is essential to actively involve the family members in the training process as their assistance would be of utmost importance later on. The training components as listed for age groups 0-16 and

17-60 years may also be provided to this age group also with the exception of school activities, house- keeping and kitchen activities. The persons of age group 60 years and above should be provided additional training as regard:

- method of offering prayer, performing worship at the local temple;

- meeting other aged persons at public places and exchanging views;
- special aspects of toilet training;
- taking medicines whenever required;
- taking care of children and ailing family members;
- assisting in the family occupation;
- becoming active member of the senior citizen club;
- assisting other family members in house-keeping, home economics and other daily activities; and
- training children in personal hygiene, social graces, school activities and home economics.
- Special Tips forthe Rehabilitation Functionaries

a. It is necessary to explain the causes of visual impairment to visually impaired person and community to eliminate prevailing superstitions. If the visual impairment is incurable, the person must be informed accordingly. He must be convincedto accept his visual impairment.

b. Win his confidence; motivate him to take personal and keen interest in the training programme.

c. Plan training in orientation and mobility and activities of daily living according to :

- felt needs of the individual;
- his interests and aspirations;
- his physical potentials and educational background;
- past experience, age at on-set of visual handicapand existing level of performing these activities; and
- in consonance with his family background, occupation and economic status.

d. Have patience and help the visually impaired person to:

- touch the materials and equipment;
- understand procedures and implications of each task; and

- permit him to touch the body of the fieldstaff to understand motion of performingthe activity.

e. Demonstrate to him a particular activity, wearing a blind fold, to convince him regarding:

- usefulness of activity;
- ease of performance; and
- possibility of performing activity in the absence of sight.

f. Counsel the family in the following respects:

- He is normal otherwise
- Lend him assistance in performing these activities
- Active participation in the training process.
- He is not a burden and through proper training he may become independent and contribute towards family earning
- His social integration and economic rehabilitation is essential

g. Encourage fellow students to

- accept the visually impaired child;
- help him in studies and daily routine;
- not patronize or overprotect him;
- encourage him to perform daily activities independently; and
- participate in school functions and social get-togethers.

h. Convince the school teacher to

- pay personal attention to such a student;
- make him sit in the front row;
- speak out whatsoever is being written on the black board;
- encourage his acceptance among fellow students;
- involve him in all class-room, sport and other co-curricular activities;
- make adjustments, be patient, and not get irritated;

- give him plenty of opportunity to repeat what he has learnt; and
- encourage him to modify these techniques or activities to suit his requirement.

i. Consistent follow-up and evaluation is essential for enabling him to internalize the activity in his daily routine.

Most Important: The list of activities of daily living provided earlier must not be considered an exhaustive one. It merely provides guidelines to enable the field functionaries to think of many more such activities depending upon the individuals, their needs and the environment.

3.6 Sensory Efficiency- Importance and Procedures for Training Auditory, Tactile, Olfactory, Gustatory, Kinaesthetic Sences and Residual Vision

Sensory Efficiency: Sensory efficiency addresses the use of residual vision,hearing, and other senses to enable or enhance accessto the environment.For example, learning how to use touch and smell ratherthan visual cues to identify one's personal possessionsor one's location, or using hearing and the other sensesto identify people one knows without visual cues, fits intothis area.Sensory efficiency skills are valuable lifelongtools. Theyhelp youths who are visually impaired increase their useof auditory and tactual information in order to makesense of the world. Sensory efficiency also involveslearning how to use any remaining vision?for example,students with low vision need instruction in how, andwhen, to use residual vision.All children who are visually impaired need to learn howto use their auditory, tactual, and/or visual senses tomaximize their environmental access.Sensory efficiency skills must be practiced throughmeaningful activities in the home and community, not justat school. Taking this into account, TVIs support sensoryat school. Taking this into account, TVIs support sensoryefficiency instruction across a range of stimulating andrelevant environments. For example, young children canuse monocular telescopes to look at distant objects in avariety of motivating settings: fast-food restaurants, malls, neighbourhoods, or playgrounds. Youths who are blindneed opportunities to use their sense of touch to learnabout a wide variety of objects and materials. Thesetactile skills are necessary to develop foundationalconcepts which are prerequisites to using braille andtactile graphics at school.Orientation and mobility instructors (O&Ms) also play asignificant role in teaching and reinforcing sensory skills.For example, O&Ms might teach a student who is blind toidentify where he or

she is by listening for environmentalsounds and noticing surface changes.O&Ms might teach visual and auditory scanning for cars,visually following a shoreline, and when to rely on othersensory information instead of unreliable vision. Thesesensory efficiency skills will continue to be useful as thestudent moves to unfamiliar postsecondary, community,and work environments.As shown here, teaching students how to efficiently usetheir remaining senses gives them greater access to theenvironment as well as increased independence andability to function.

TVIs and O&Ms must receive training in how to assessand support the development of sensory skills. Theyneed to understand which sensory cues are morereliable than others and help students learn to use thesekinds of cues.For example, some sounds, such as a bell tower's hourlychime, might be consistent whereas the sounds of theoutdoor air conditioning unit or water fountain cycle onoutdoor air conditioning unit or water fountain cycle onand off.TVIs also need to be aware of potential issues in the areaof sensory skills and how to accommodate for them, suchas if a student is reluctant to touch different textures or if astudent has a hearing loss. Throughout the day, TVIs,O&Ms, and others should reinforce these sensory skills.This can be achieved by describing different textures forthe student as he or she feels them, or by pointing outdistinctive visual features like the black tape on each stepin the stairwell.

The visually impaired person enjoys the experience in independent travel when he has a good and efficient training in use of the remaining senses. The loss of sight compensated by the sense of touch and hearing. Sensory stimuli enable a visually impaired person to determine his position or direction. Such sensory stimuli are classified as 'clues'. Hearing plays a dominant role in mobility. Sharpening of hearing means much in the perception of the world as developed by the visually impaired student. The important areas required for sensory training may be branched off as follows:

3.6.1 Importances and Procedures for Taining Auditory

Sense of auditory is essential as we rely on auditory information of the world consciously or unconsciously. The visually impaired student has to depend on this sensory training to a great extent. It overcomes the difficulties of the student suffering from lack of visual perception. Hearing plays a very important part in the orientation process. To gain maximum advantage, the person must use it in a number of ways:

Sound Discrimination: refers to selecting those sounds which are useful for orientation. For example, in a background of a variety of noises in a farm, he may want to separate noise of a bullock cart to get an indication of pavement direction.

Sound Localization: refers to locating the sound in terms of its direction, distance, source quality, variety, angle and whether the sound is moving or not. Once the position of the sound is established, he may decide to move towards or away from it. For example, on locating a sound an of engine of a tractor, he may move away from it for the reasons of safety; or move towards it for approaching the pavement.

The sound discrimination and sound localization help the visually impaired in the following ways:

- Identify objects from their sound
- Relate the sounds to their sources
- Discriminate between simultaneous sounds
- Establish direction and source, whether moving or not, of the sound
- Localize sounds for understanding spatial concepts
- Get an understanding of spaces, places, terrains by sound discrimination.

Mapping of Sound: Whenever sound is perceived in the hearing system, mind of an individual tends to create a map in the mind depending upon direction, distance, agnle, quality, variety and pitch of the sound. Individual's mind tends to recognize the source and location of the source depending upon these facters and relating the same to past experience as regard nature of sound. A visually impaired person also experiences the same process. She requires inputs terms of recognition of these sounds and relating the same to the source. A visually impaired should:

- be encouraged to retrieve maps of sound generator in brain;
- relate quality of sound with the source;
- locates objects using this process.
- experience and remember variety of sounds;

Echo Location: refers to detecting obstacles through the noises which are generated by an individual and reflected back from the obstacles. It has been established that most congenitally visually impaired people are able to detect obstacles through echo location whereas adventitiously visually impaired people can be trained to do so.

Limitations

- echo location ability deteriorates with age; and

- echo location is difficult: in noisy conditions; when there is strong wind; and when the obstacle is very thin.

It is thus essential that every visually impaired person should be imparted adequate and appropriate training in the proper use of the sense of hearing. It is desirable to use an auditory map for orientation of the environment.

3.6.2 Importances and Procedures for Taining Tactile

Exploration of an object is worth a thousand words used in explanation. Objects perceived through touch, determine the definiteness of the objects and help the individual to form neat conception of them. More than mobility, the sense of touch has a lot to do with reading of the visually impaired student. It has its limitations as large objects lie beyond tactile exploration. 'Wholeness' can be perceived by the child only when the object is within the reach of the non-seeing child's hands. A visually impaired person can gain a great deal of information by his sense of tactile. Touch is essential for concept clarity and determination of the nature of the object. He can use his tactile sense to explore the environment in the following ways:

Hands can be used to:

- understand spatial quality, surface texture, resilience, temperature, pliability and weight;
- establish the position and then identify objects;
- trail along any object for maintaining contact for mobility;
- avail information about the layout of the environment through tactile maps, models, embossed diagrams and relief maps; and
- understand the diversity of various objects.

Feet can be used to:

- understand the position of various landmarks on the pathways;
- understand the relative position of buildings and the direction and lengths of connecting roads;
- feel changes in surface texture, slope etc.; and
- understand terrain and geographical conditions.

Touch may pose a limitation as large objects and the environment in general are invariably beyond tactile exploration.

3.6.3 Importances and Procedures for Taining Olfactory

A good nose voluntarily offers the information of the objects which can be smelt. These are sensible clues for a traveller. During his travel, the smell of a gutter, the smell of smoking in a chemical industry, smell of flowers in a garden or smell of a kitchen are sources of information for him to locate where he is. Development of this skill speaks well of the chemistry laboratory of the child's school experience. This also helps in the day-to-day life of the individual. If the student has an 'educated nose', his surroundings can transmit enormous information to him.

- Smell is useful for orientation, both in the house and the outside, in the following ways:
- Particular shops, factories or establishments can be identified by odour.
- Smell from kitchen, store or dining room can be useful as a cue for direction.
- Through smell, one can establish presence of particular animals in the vicinity.
- Typical odour from sewers or open drains in the rural areas can be used as landmarks.
- Sense of smell is useful for understanding one's relative position in an agricultural or a dairy farm or a garden.
- To relate or associate different items from their smell.

Limitations

- Sense of smells may change with time and with change in circumstances.
- Difficult to differentiate smells in crowded places.
- The same smell may be coming from different directions and locations.
- Difficult to use this sense in isolation, thus to be used in combination with other senses.

3.6.4 Importances and Procedures for Training Gustatory

It has limited utility for sensory training in orientation and mobility as it does not provide any information about the relative environment or unless the sense is provoked, sensing is not spontaneous. This sense, however, needs to be nurtured for its utility. It helps a

visually impaired person to associate names of the particular substances with their particular taste:

- sweet with sugar, candy, sweets
- sour with citrus fruits, juices
- bitter with medicines, herbs, plants
- hot with tea, coffee, milk
- cold with ice-cream, ice, cold water etc.

The sense of taste is particularly useful for identifying the ingredients of food items, drinks, and dietary substances and like items.

3.6.5 Importances and Procedures for Taining Kinaesthetic Senses

The feeling of the body in responding to external stimuli, otherwise the kinaesthetic sense enables the child to get certain information like cold, heat, breeze and elevation of surface. Mobility is guided by his kinaesthetic sense. Changes of temperature on the face or body can be used to provide orientation information. For example, it is possible to recognize position of the sun by the part of the face which feels hot. The relative position can be understood by a change from the shade to the sun. The response of the body to external stimuli, termed as kinaesthetic sense enables a person to avail environmental information like heat, cold, rain and breeze etc.

The receptors in the joints, muscles and tendons give information to the brain about the physical position of the individual in the environment. This mode of information is termed as the kinaesthetic sense. Through this information, a visually impaired person comes to know the type of ground or surface i.e. grass, road, mud he is walking. It is possible to remember and repeat particular body movements. Taking meals involves a number of sequential body activities which can be remembered and repeated when required. With practice, particular muscular movements can be produced automatically in a similar situation. It is possible to replicatethe extensive body movements involved in walking from oneplace to another. Getting into a bus, going up the stairs or opening the door generally involves particular muscular movement which can be repeated time and again in a similar manner.

3.6.6 Importances and Procedures for Taining Residual Vision

Assessment of the students 'residual vision' is the first step in teaching how, when and under what conditions such vision can be used effectively. The ability and visual

functioning of people can be assessed through series of graded visual experiences. It is better and easier to move smoothly through familiar environment to the child. Vision develops in rational sequence. The activities are hierarchical and logical rather than random. The child, who tries to see, first attends to the light source. Often the child is developing the skill of residual efficiency through various stimulating activity and colourful objects.Sensory input is to compensate for the lack of sensory which they are receiving visually. The suggestions are how to help the student fill their sensory needs or various opportunities which are possible at home and school are listed below. They are to be practiced for a prolonged time to improve residual senses:

Development of an interest in seeing:

- Stimulate visual curiosity by exposing the child to various lighting conditions.
- Encourage continually to maintain interest in seeing. Variety counts a lot here.
- Encourage for seeing first, the inaccuracies may be mentioned later. Encourage discussions about what is seen. The child may be assisted in making associations between three dimensional object and two dimensional pictures, picture to picture.
- Develop a vocabulary dealing with visual likeness and difference.

Encourage attending:

- Providing enough time for the child to observe the objects.
- Using coloured lights in positions of gaze may help the child to fix his line of vision.
- High interest objects for identification. Objects like balls or toys can be used for this purpose.

Tracking following an object:

- The teacher can draw diagrams or letters and ask the child to move his finger along drawn pathways.
- The child may be asked to follow a light source.
- As crayon pencils are used by children. The child of low vision too can follow the pencil.

Recognition of objects:

- Discrimination three-dimensional objects, blocks, sticks and stones.

- Teach graduation in size. Small medium and big should be graded by the child.
- Two- dimensional presentations.
- Teach names of colours.
- Teach intensity concept. Mildness or thickness are some concepts to be developed in the child.
- Colour intensity can be made complicated and the child should be asked while he has seen

Visual memory games:

- Flash card or object presentations and the child should be asked what he has seen.
- Increase duration of memory.
- Increase difficulty of stimulus.
- Decrease time to exposure.
- Increase number of stimuli.
- Specify order or recall.
- Call for categorizing.

Visual integration:

- Use complete range of forms taught for this purpose.
- Have child make shapes from stubs, clay, card board, wood pieces.
- Draw forms freehand.
- Throwing or catching a ball.
- Being related black abstract forms to familiar concrete objects in environment.
- Reinforce vocabulary of difference.
- Emphasize naming of objects.

Visual closure:

- The child must be asked to find the missing parts of concrete objects.
- Present a series of diagrams in ascending or descending oder with one diagram missing in between. Let the child complete it.

Form constancy object programme:

- Concrete, familiar objects may be presented in various positions and the child must be exposed to those differences.
- Two-dimensional pictures of the objects in various forms may be presented to the child for discrimination.

Figure ground discriminations:

- Pictures of different colours may be given on the same back ground and the child asked to discriminate.
- The complexity of discrimination can slowly be increased.

Eye hand:

- Tracing lines, curves and other two-dimensional forms or shapes are useful activities.
- Rolling balls, throwing, catching and bouncing are some activities for developing eye hand coordination of a child.
- Weaving with plastic ropes and cardboard needles develop motor skills.

Eye foot:

- Placing a foot game on squares of paper or mats demand the eye foot coordination skill in the child.
- Following a weaving line made by a rope is good for skill.

The low vision condition demands more creativity in the teacher owing to individual differences in the extent of visual impairment, amount of residual vision and the temperament of the children. The teacher in his approach should bear in mind the following to make his efforts more fruitful:

- Visual skills instruction includeslearning to use visual skills, such astracking, scanning, and attending tovisual stimuli. Visual efficiency refersto the extent to which an personmakes the greatest use of the visionthat is available to him or her.
- Attending, shifting gaze and visualpursuit skills will help prepare astudent for learning as well asprepare them for safe and efficienttravel.
- Tracking and scanning skills areimportant for reading and writingactivities as well as safe and efficienttravel.

- Visual motor skills help coordinateeyes and feet as well as eyes andhands. This page lists possibleactivities to help develop visualmotor skills including gross motor,fine motor, and eye-handintegration.

- Visual discrimination is the ability torecognize details in visual images.

- Activities practicing visual closureand figure ground can be morechallenging for students with visualimpairments.

- Visual association and visualmemory activities can bechallenging for students with visualimpairments.

- The development of tactualexploration and discrimination skillsare necessary for future braillereaders as well as for students whomay not be able to learn formalbraille, but can learn to discriminateobjects by touch to help make senseof their world or to use forcommunication.

- All students need to developstrength and dexterity to completeeveryday tasks. This is especially important for future braille learners in order to be able to use the braillewriter and slate and stylus. It is important for students to manipulate materials and develop their fine motor skills. This page provides suggestions on ways to develop skilful hands.

- Listening skills are important foreveryone, but especially forstudents who are blind or visuallyimpaired strategies in developing a student's auditory readiness, a skill needed to lay a foundation for listening skills.

- Many students who have visual impairments will be print readers and will use print as their primary mode of communication. The teacher of student with visual impairments (TVI) will assess the student's functioning and determine what non-optical devices will assist a student in accessing print and instruct the student in the proper use and care of the devices.

It is a misunderstanding to suppose that the loss of sight leads to extraordinary abilities in the other senses. In fact, the student lack of confidence in the remaining senses when blindness is abrupt. Unless the senses are attuned to the environmental demands of information, the abilities remain in halting positions. They must be provided with the opportunities to experience the use of senses and the utility should be noticed. For a child who has acquired the necessary sensory skills, orientation to environment becomes easier and this leads him to a greater level of confidence in mobility.

3.7 Techniques of Teaching Social Interaction Skills, Leisure and Recreation Skills and Self Determination

3.7.1 Techniques of Teaching Social Interaction Skills

Social bonds between children who are blind or visually impaired and their caregivers can be affected when there is lack of eye contact, possible lack of smiling, and frequent passivity or constant tactual exploration in less than ideal locations. Providing students with fading assistance in social circumstances is key. Talking with the student about who is involved, what they are doing and why can help the student understand the social context. Although it may be difficult to provide, students need honest and sensitive feedback about their behaviour and the impact it may have on social interactions. You can then talk with the student about how they can make judgments about how to change their behaviour. Students must learn to communicate effectively with different people. They must also learn to accept and respond appropriately to suggestions and corrections (ex. show respect for their teachers and others in leadership positions). The strategies identified here may help the student develop appropriate and positive social skills. Help a student learn appropriate social skills by encouraging the student to:

- identify conventional gestures used in social contexts.
- use nonverbal behaviors to indicate interest in speakers and tocommunicate more effectively.
- respect personal space of others.
- make contact according to cultural norms.
- turn face to speaker and maintain social interaction. Explain thatthis behaviour shows you are interested in what the other person issaying.
- discuss facial expressions (ex. smiling, frowning, etc.) as feelingsthat occur throughout the day. Help students understand that theirfacial expressions convey to others how they feel.

- use a tone of voice that is appropriate to the setting.
- recognize behaviors that can cause social isolation.

There are various responsibilities which must be follows in social interaction, which also known as interaction tips or behavioural skills. These are as follows:

Adult Interaction Tips

Students need to learn respect adults and to interact and respond to them differently than they would to a peer. Help the student have positive interactions with adults by encouraging them to:

- respond to an adults attempt to interact.
- initiate interactions with an adult.
- address parents or other familiar adults by name. (But by all meansdo NOT play the guessing game! It is unfair for the student to "Guesswho it is.")
- comply with simple directions and limits from adults.
- demonstrate the ability to differentiate between familiar adults andstrangers.
- identify situations in which an adult should not be obeyed. Sadly, welive in a world where not all people can be trusted and not all peoplehave good intentions. The student needs to be taught that it is OK tonot listen or comply with some requests.

Peer Interaction Tips

It is important for students to learn how to interact appropriately with their peers. The following are strategies to use in order to help the student develop positive peer interactions:

- When the student enters a new area, make certain that the studentunderstands what other students are doing.
- Particularly with younger students, describe the students presentand the activities in which they are engaged.
- Remind the students to take a moment and listen to groups at playbefore they jump in with an intrusive question or comment.
- Be prepared to answer questions about blindness simply andnaturally. The other students will probably ask questions about astudent with impaired vision.

- Remind sighted students to express their feelings with words.Remind them that the student that is visually impaired may not seetheir smile, frown, or other facial expressions.
- If the student is learning Braille, consider having thestudent demonstrate reading and/or writing in Braille to theother students.
- Encourage the student with visual impairments to use the names ofothers when talking to them.
- Don't be afraid to let students with visual impairments know thatthey are expected to answer their friend's question or respond totheir comment.
- Talk about the importance of turn taking. This applies to game playas well as in conversations. Discuss the importance of listening todiscussions and waiting for an appropriate time to comment or ask aquestion.
- Assist the student in developing the important skill of initiating,continuing, developing and concluding conversations.
- Encourage the student to demonstrate affection in sociallyappropriate ways, considering the person, place, and situation.

Courteous Behaviour

Students who are blind or visually impaired may not be aware of conventional courteous behaviors as they may be unable to visually observe them. For this reason, students will need to pay extra attention to environmental cues in order to know how to act in various situations. Modeling and practicing the behaviors including greetings, farewells and introductions in comfortable, familiar settings, will help the student in use the skill in new environments. In order to help the student develop courteous social behaviors by encouraging them to:

- respond to farewells and greetings.
- apologize to others when appropriate. A student may need supportfrom an adult to help them understand the impact of their actionsand how it offended or hurt others.
- use people's correct names and titles when addressing them.
- introduce self to others and introduce people to each other.
- give appropriate compliments and praise to others.

- use acceptable language with consideration for the person orpeople present, the setting, and the social situation.
- differentiate socially acceptable and unacceptable behaviors in avariety of situations. The student will obtain information from othersabout appropriate behaviour in unfamiliar settings.
- recognize sarcasm, and respond in an effective manner.
- use appropriate manners (e.g., please, thank you).
- follow classroom and school routines and procedures.

Social Interaction Examples

- Initiates/reciprocates greetings
- Shows toys/items to peer
- Plays game with peer
- Requests assistance from peer
- Invites peer to join play
- Expresses empathy
- Follows changes in conversational topic
- Responds to nonverbal cues of listener

3.7.2 Techniques of Teaching Leisure & Recreation Skills

Leisure describes an individual's perception that one is to choose and participate in meaningful recreation. Individuals with developmental disabilities typically have an abundance of free time but do not usually use their leisure in constructive ways. Even so, leisure instruction for individuals with significant disabilities historically has low priority, and is often not taught. This may be due to the perceived difficulty associated with establishing and integrating leisure activities for individuals with significant disabilities. All human beings have the right to engage in leisure activities, and services that are provided to individuals with disabilities should offer opportunities to engage in these activities. Increasing the focus on teaching leisure skills has the potential to open new doors for students with disabilities. When individuals with severe disabilities develop leisure skills, it may enhance social, cognitive, domestic, language, and motor skill development Specifically, individuals who gain leisure skills increase their activity

level and social interactions and decrease their self-stimulatory behaviors (e.g., body rocking, hand flapping), due to being appropriately engaged age-appropriate leisure skills that can be enjoyed across the lifespan that enable adults to experience an enhanced quality of life by increasing competence and self-reliance leading to an increase in opportunities to access least restrictive environments.These skills contribute to living a more self-supporting lifestyle and to achieving greater independence in life. The more skills adults acquire, the more enhanced their quality of life becomes. However, most individuals with significant disabilities are unlikely to learn leisure skills without systematic instruction, and even those that may acquire the skills are not likely to generalize to other environments or self-initiatewithout systematic instruction. Several studies have demonstrated effective methods for teaching leisure skills to individuals with significant disabilities.

Recreation and leisure are terms often used interchangeably. Both relate to what people choose to do in their free, unobligated time?that is not otherwise used for work, school, or other activities like appointments and chores. Leisure time is any free time that can be used to pursue personal interests. Recreation is an individual's preferredpleasurable and enjoyable activities in which they engage during leisure time. Recreational activities can be sedentary in nature, like knitting, chess, playing musical instruments, or social networking in person or on the computer. It can also be active and enhance physical fitness and well- being. Examples of active recreation include walking, skiing, dancing, bowling, hiking, rock climbing, boating, bicycling, weight lifting, and goal ball. Children with visual impairments, blindness, or deaf-blindness need systematic and purposeful instruction beyond the general education curricula to gain the skills necessary to be independent, productive, educated members of society. Recreation and leisure are some of the instructional areas that need to be addressed. Knowledge of recreation and leisure provides critical supports to a wide range of student capacities in the areas of social interaction, orientation and mobility, independent living, and self-determination. Developing recreation and leisure skills can have far reaching positive effects on the lives of people with visual impairments. Research has shown that recreation is an important factor in Recreation and Leisure and the Expanded Core Curriculum Back to: ECC Subjects and Skills quality of life for everyone, including people with disabilities. People who engage in recreational activities will likely benefit by having improved cardiovascular function, better ability to sleep, improved self- esteem, increased stamina, and decreased stress levels, all of which not only improve quality of life, but also have positive benefits for other activities. Beyond the health and wellness benefits of physical fitness touted in the media, when one's body is more accustomed to the different types

of physical movements inherent in recreation and fitness activities, that person generally has better flexibility, strength, and stamina. With improved physical fitness, independent living skills are easier to perform and less stressful on the body. In addition, recreation is a highly social phenomenon organized around friendships or family groups, and these social interactions buffer the effects of stress on health. With this in mind, recreational activity that increases physical activity and improves fitness should be encouraged.

One's environment can be a determinant to stress reduction. Natural environments can be pleasant, relaxing, and stress reducing for many people, but large urban cities also provides the same experience. Having too much free time and limited access to various recreation activities of one's liking can produce stress. So, for those individuals living out in the country who have access to transportation, the joy of partaking in cultural events in the city on a weekly or monthly basis provides the opportunity for a stress limited lifestyle. The same can be said for people living in the city who recreate in the country. Social integration of children and adults with learning disabilities into community recreation programs offers the chance to develop a positive self-image through successful experiences and satisfying relationships with peers. McGill (1984) reports that integrated play opportunities are stimulating and highly motivating experiences for disabled children, offering them opportunities to imitate and model the play behaviour of nondisabled peers. Social integration also enhances relationships between family members. We've all heard of the old age, "The family that plays together stays together." This adage infers that leisure experiences promote family satisfaction and stability. Recreation activities provide opportunities for couples and families to interact and negotiate individual and collective interests. Worthier and Mancini (1991) state some benefits to the family: Leisure experiences promote opportunities for developing equity. Unlike many other environments within which people interact, leisure experiences promote opportunities for each individual to maximize her or his own interests and minimize competition. It is during leisure time when husbands and wives, and parents and children, are most apt to practice by negotiating family roles and reaching new definitions of consensuses. When individual interests are promoted over maximum joint interest, family bonds are weakened. Shared leisure experiences encourage opportunities to negotiations and improve the historical comparisons upon which subsequent negotiations are based.

Benefits of leisure in social integration are also noted in people without disabilities. The chance to learn from and to socialize with nondisabled peers has been cited as one benefit for individuals with disabilities participating in integrated and fully inclusive

programs. Research in the 1980's determined that positive attitudes of children not having disabilities toward peers having disabilities were cultivated or increased when involved with an integrated recreation activity (Schlemiel & Ray, 1988). Recreation service providers also learn from this experience. Due to the Americans with Disabilities Act of 1990, all private, public, and non-profit agencies delivering recreation services to the public must supply accommodations and modifications within their programs to persons with disabilities. These professionals may not have any knowledge of providing accommodations and/or modifications to participants with learning disabilities. The person with learning disabilities, upon disclosure, thus needs to educate the professional about what accommodations and/or program modifications should be arranged to enable full participation in recreation programs. This social interaction not only contributes awareness of this situation to another person but also demonstrates how important it is for individuals with disabilities to participate in a particular recreation activity like everyone else.

Often, the public and even some professionals who are knowledgeable about learning disabilities forget that everyone has a life after school and after work. Do not let the word learning impede any thinking that problems associated problems associated with learning disabilities will only surface during school or work. A person may read during leisure time, and that does not always mean a novel. A person reads directions to complete a craft project, instructions to play a computer game, a description of a recipe, and even the gate number on an airplane boarding pass. Dyslexia does not cease when one is playing Scrabble(R). Auditory perceptual ability does not suddenly improve because a child receives lower amounts of verbal instruction on the baseball field than in the classroom. Dyscalculia does not go away when playing a card game. Learning disabilities can affect every area of one's life, including participation in recreation activities. First, the person may only wish to participate in activities that reveal his attributes. For example, an individual who excels naturally in physical activities (e.g., basketball, volleyball, golf, tennis, etc.) may feel more comfortable playing in physical activities than a game of Scattergories, which requires the ability to hold information in memory, process written text quickly, recall accurately, and spell precisely. Even when a person excels in physical recreation activities, unexpected obstacles can appear. A few of these obstacles are reading and interpreting written game plays or formations (e.g., basketball, football, gymnastics, marching band, water polo, hockey, etc.), keeping track of a score (e.g., golf), and outmanoeuvring your opponent through replanted shots (e.g., racquetball,

volleyball, tennis). To, shown is a compilation of illustrations that describes how specific types of learning disabilities affect performance in recreational activities:

- Dyscalculia. This can cause one to produce a sum that is incorrect, resulting in losing a game or in misplacement of ranking in golf. This also can cause difficulty in playing games such as dominos? Scoring bowling or in any type of card game? Casino gambling? Calculating dining charges, etc.
- Dyslexia. This inability to understand written language poses a problem when reading craft instructions, theater programs, movie subtitles, travel itineraries, tour guide brochures, and interpreting the directions in learning a new game.
- Auditory Acuity Difficulty. This may be the problem if, when playing a game of basketball, a player continually does not respond to a coach's directions from the bench or does not respond to a teammate's verbal playmaking messages.
- Auditory Vocal Association Problems. The characteristic is displayed when a person hears what was said, is subsequently able to acknowledge the auditory stimuli in a correct manner, and yet proceeds to perform an incorrect or inappropriate action. In football, upon hearing the signal for an interception, a defensive back stop, turns, and begins to tackle opposing players rather than block.
- Auditory Memory Deficit. This could be the problem if a person finds difficulty remembering directions or instructions that have been previously explained (e.g. Just before game or during halftime when new instructions were stated). In volleyball, a player does not remember alterations to a defines play made by the team captain at halftime.
- Auditory Sequencing Problem. Here a student experiences the inability to recall a series of auditory instructions. During tap dance instruction the student performs a shuffle step beginning with her left foot instead of her right foot and before an eight count circle to her left.
- Catastrophic Response. This can occur anytime when Catastrophic Response. This can occur anytime when the individual is overloaded with too much visual and/or auditory stimuli and results in high frustration. A scenario could be that the person misread or did not double check the time to return to the bus from an outing. This resulted in the person and accompanying friend missing the bus to return to their hotel. They are standing at the wrong bus station surrounded by hundreds of tourists. His friend is yelling, people are everywhere, and the person

shuts down for approximately one minute.

- Cognitive Disorganization. With cognitive disorganization, a person may often miss or forget steps in a sequence. During a Cub Scout weekly assignment, 10yearold Bob never brings all of the materials required completing a project, or he constantly confuses the steps taken to achieve merit awards.
- Crossing the Midline and Directional Problems: These problems become quite apparent during aerobic exercise or dance class, roller or ice skating instruction, driving small motorized vehicles (e.g., scooter, go-cart racing, bumper cars, boats, etc.) and locating a room in a hotel. This individual is unable to smoothly mimic the movements of the aerobic or dance instructor and experiences difficulty mirroring responses. Controlling the steering wheel, judgement of turns on a course, and going in the correct direction may require many practice runs before exhibiting adequate skills.
- Disinhibitation: A person exhibiting this problem often finds complications with "fitting in" groups, especially team recreation activities. Constant laughing at a teammate when the ball is dropped, always retrieving a shot within someone else's playing zone (e.g., volleyball), and continually talking loudly when silence is expected (e.g., opponent is putting in golf) could lead to dismissal from the team, if the individual is unable to correct these types of behaviors, or could result in peers not inviting this person to accompany them in a recreation activity again.
- Intersensory Problem: Trouble using two senses at once could interfere with designing a piece of pottery or hand painting a ceramic dish and holding a conversation with a talkative person who is sitting in the adjacent seat.
- Dilemma: Individuals exhibiting this dilemma may not complete the task or may make numerous mistakes during the process due to engagement in conversation.
- Short term Memory Problem: A person with a short term memory problem does not remember the sequence of a turn taken during a table game, forgets to place a bet before the next poker round, and may not remember what he betted during the current poker round.
- Visual Acuity Problem: A player does not exhibit the ability to see clearly and differentiate objects in his visual field. In bowling, the bowler experiences problems in lining the bowling ball up with the range finders on the runway.

- Poor Visual Coordination and Pursuit: Here the task of following and tracking objects causes distress. A person has trouble positioning him to catch a Frisbee or misjudges the landing of a spin on a tennis shot.
- Visual Figure Ground Differentiation Problem: With this type of problem the person never identified where the object was from the beginning? She has an inability to distinguish between objects in the foreground and background. In soccer, a player has difficulty seeing her teammates when conducting a "throw-in" to continue the play of game.
- Visual Motor, Spatial Form Manipulation Problems: An individual finds complications in successfully moving in space and manipulating three-dimensional objects with this problem. Examples are placing jigsaw puzzle pieces in their correct location within a puzzle, manoeuvring one's bicycle through an obstacle course, and even parallel parking one's car. It is common for persons with learning disabilities to employ survival strategies when learning a new skill or interacting in a group situation. Examples of these strategies are as follows: 1. Learn from doing. 2. Observe what others do. 3. Develop a buddy system.4. Awareness of instructors' expectations: It is common in organized athletic teams that one person's wrongdoings or mistakes can jeopardize the entire team? Youngsters and adolescents respond quickly to peer pressure

How Do Teachers of Students with Visual Impairments (TVIs) Approach Instruction?

Recreation for children with visual impairments cannot be learned by passively observing others at play. Recreation must be intentionally and systematically taught with disability specific techniques and safety in mind. The foundation for recreation can be learned in physical education (PE) courses with accommodations and adaptations. Children with visual impairments benefit from learning the components of recreation and fitness in PE because many other components of the ECC are also covered to some extent during the course of the year. By participating with classroom peers, students with visual disabilities learn the foundational sport and fitness skills that enhance the lives of all children. They are also empowered to make the self-determined decisions necessary to have control over their free time and make lifelong health choices. TVIs approach instruction in this area by providing students with specific information about recreation and leisure activities. They also collaborate with PE teachers and other professionals to determine how activities can be adapted for these students to maximize their opportunities

for independent participation and learning. For example, a tee might be used in softball instead of having the ball tossed to the student, or a beeper ball might replace the standard ball. For activities like basketball, things such as tape can be placed on the ground to mark the boundaries of the court, and a beeper can be placed on the basketball hoop to help the student identify its location. These students can also be introduced to sports that have been specifically created for those who are blind and visually impaired, such as goal ball and beep baseball. TVIs also support recreation by describing the activities in which the student's peers are participating. They model those activities for the student and school staff who work directly with the student in other areas. The TVI might teach the student how to play games that classroom peers are playing or show the student how the activities can be adapted. For example, braille might be added to playing cards or friends might read game materials to the student.

The TVI can also orient the child to the school playground or PE field and show the child how to use various play areas and equipment. During direct instruction, TVIs or orientation and mobility instructors (O&Ms) describe the recreational activities in which people around them are participating. In addition to verbal descriptions, tactile maps and diagrams can be used to teach layouts of various activities. Examples include a tactile map of a baseball or football field that may indicate the different player positions.

Even if youths who are blind and visually impaired choose to not participate in every sport or recreation activity on their own time, they should learn what the rules are and how to play them. Knowing the rules of different games and keeping abreast of sports offers a student with visual impairments opportunities for social interactions with peers. Remembering that recreation, fitness, and leisure skills encompass more than physical activities, students with visual disabilities should be introduced to a variety of hobbies they may find interesting. Even if a student chooses to notparticipate in a hobby over the long term, the student will have a greater understanding of how people spend their free time and be able to participate in conversations about these activities. The overall goal of the TVI is to help the student identify recreation, and leisure activities that he or she enjoys and can pursue throughout life. As with all people, regardless of ability or personal interests, recreation, fitness, and leisure skills are an important ECC area that supports the sense of both wellbeing and quality of life for students who are blind and visually impaired. Because these students have difficulty seeing how others spend their free time, TVIs and O&Ms systematically and purposefully help these children discover and learn about activities they may enjoy. Participating in recreation, fitness, and leisure helps youths with visual impairments develop social, career, and problem solving skills.

Engaging in this ECC area also increases self- esteem, self-determination, and overall health. Students who are challenged and achieve goals they thought might be impossible, or too difficult, develop confidence which positively impacts all areas of their lives. To that end, TVIs should be aware of how to adapt a variety of recreational activities for these children and work with PE instructors to ensure that they are included in their PE classes. We do not want youths with visual impairments to be idle bystanders in life?They should be engaged in recreationand leisure activities alongside their peers to ensure they learn the skills necessary to make purposeful and self-determined life choices. The student should be encouraged to: choose an object to play with or an activity when presented with options; play simple card, board and table games; identify various community activities and facilities; participate in clubs/activities; identify and choose appropriate leisure activities and hobbies; play age-appropriate games enjoyed by peers; and cooperate in team activities.Before suggesting the leisure and recreational skills must be follows underneath factors:

1. Generalization data demonstrated these two participants successfully maintained the skill over time, as well as in other environments.
2. The selection of games is very important. The games should be aimed at the appropriate developmental level of child, and adaptations should be made
3. So they are suitable for a particular child, if necessary. Most importantly, the games should be playable with nondisabled peers.
4. In addition to using games that need no modifications, there are numerous adaptations that can be made to games that will allow blind and visually
5. Impaired children access to a wider range of recreation/leisure activities.
6. Some of these adaptations are: Divide sections of game boards with glue, or various textures. Add braille labels to sections of game boards. Use velco in sections of game boards and on bottoms of playing pieces. Braille the instructions and the game cards Tape record game instructions. Braille regular playing cards or game cards such as Uno. Use textures or glue to mark differences in game pieces. Add brightly colure stickers to game pieces and game sections. Mark dice with braille labels or glue dots. Make a Tic-Tac-Toe board with a cake pan and magnet strips. Divide checkerboard with glue and mark red playing pieces with texture. Play Tic-Tac-Toe with pegs and pegboard. Use a large box lid to define playing space. And Keep score with peg boards, paper clips clipped to index cards or tokens dropped into a contain Play

Play is the foundation for learning about the world. Through play, children learn to make comparisons between materials and develop preferences. Children learn many skills through play and also begin to develop social skills. Play is an important part of the Early Childhood curriculum, but children may need to continue to develop their play skills even as they elementary school.

Playground

The playground should be adapted for the student with visual impairments. It is important for a student to be oriented to a playground when it is quiet and when other students are not on the playground. In addition to learning where the equipment is located, students should have the opportunity to tactually explore the equipment to learn how it moves. Student should also be instructed to visually scan the playground and/or use auditory cues prior to moving from one area to another.

Creativeness

All children will naturally gravitate toward a preferred activity. Of course, students should be permitted to develop in their area of interest, but it is important to expose children to a wide variety of leisure activities to ensure the students are aware of a variety of leisure activities available. Students who are blind or visually impaired do not have the same opportunity to visually observe a variety of activities available. Factors such as cost and material adaptations will play a factor in what activities are accessible

Bowling

Students can learn basic bowling skills by playing with home-made or purchased bowling sets that can be used at home and school. A sound source can be placed behind the pins in order to provide an auditory target for the students. Many bowling alleys will provide bumpers, or portable bowling rails, upon request.

Word, Card & Board Games

Playing games is a lifelong leisure time activity that fosters social interactions. In order to be accessible to a student with a visual impairment, they may need to be adapted. Although someone knowledgeable in braillecan adapt card and board games, there are commercially available games that have been adapted with braille as well as large print. Large print cards can be purchased or made for students with low vision.

Bicycling

The foundation for bicycling can begin when a child is young. Providing opportunities

for students to play on riding toys is a good introduction. Older students can build endurance and experience physical activity by using a stationary bike. Students with low vision may be able to learn to ride a bike, but depending on their level of available vision, may need to ride alongside a sighted adult or peer who can warn the student of any dangers. Students who are blind may be able to experience biking using a tandem bicycle.

Physical Games & Sports

Simple games can be adapted easily, but it may be more challenging toadapt team sports. Although games can be adapted, students will need to acquire the motor skills necessary to fully participate in the games. Skills needed to play in games may need to be taught in isolation. It is important to be aware of the students are more at risk for retinal detachment. Also, some eye conditions can be aggravated by vigorous physical activity.

Practice different ways to cross the gym/playground: walking, tiptoe walking, galloping, skipping, hopping, and running with a partner, jumping. Make it a game of walking up and down stairs in a "Teacher May I" game. Practice jumping up and down with jump rope or Chinese jump rope games. Practice keeping balance while walking along curbs or balance beam. Play games that incorporate throwing and catching balls. Encourage student to slide, climb on play structures, crawl through tunnels, and play on swings. Encourage students to create their own obstacle courses and challenge their friends

Students are able to use recess and gym time to gain an understanding of their bodies in space; improve their physical skills; develop language and concept development; and practice group cooperation. Many of the team games and athletics are excellent and appropriate for students with visual impairments. In addition, however, these students need to develop activities in recreation that they can enjoy throughout their adult lives. Most often sighted persons select their recreation activity repertoire by visually observing activities and choosing those in which they wish to participate. Perhaps nothing reveals so much about individuals as how they choose to play how they invest their time and energy for leisure time. Leisure is that time free from demands of school, work, or required activities of daily living. Everyone needs regular recreation that develops skills, promotes good health, relieves stress, facilitates social interactions, and provides a general joy for living. For recreation, choose activities at which can be successful. Good readers read. Athletes seek sports' activities. Musicians lose themselves in music. Visual artists paint or draw. Craftspeople create. Social individuals engage in group activities. Observers appreciate the efforts of others whether a basketball game, painting, fine

meal, or concert. Children, adolescents, and adults with learning disabilities may find themselves with limited opportunities to fully enjoy leisure time. A lack of perceptual, motor, memory, linguistic, or organizational skills may cause them as much difficulty for leisure as they have at school or work. Fear of failure may limit their reaching out to access recreational activities. Just as we teach children with dyslexia to read, those with math disabilities to understand math, those with linguistic problems to better comprehend and use language, we must teach skills and provide practice so individuals with learning disabilities can achieve some recreational proficiencies. When skills are not as well developed as necessary and compensations are not made, agencies, institutions, instructors, and coaches can be helped to make necessary accommodations. Satisfying leisure time for persons with learning and other disabilities is as important as accomplishments at home, school, and work. Simply because they can derive many benefits from recreation participation. One benefit is learning from the experience. When the recreation activity experience has captivated the participant, this individual brings particular personality styles of learning, motivation, and expectations about the experience to the setting. The person faced with a specific environment, interpreted by the person or not, promotes one or more learning experiences. These learning experiences can be motor learning, understanding game directions, or performing a skill, all to meet the demands of that setting. These experiences may come from involvement in a structured recreation program and may be exhibited as part of the information outcomes of participation. Researchers in the field of learning and educational psychology have discovered a variety of learning outcomes. The following outcomes can be present because of participation in recreation activities: behaviour change and skill learning, direct visual memory, information (factual) learning, concept learning, schemata learning, metacognition learning and attitude, and value. The physiological benefits of recreation participation were derived from studies where people engage in physical activity of some kind (e.g., exercise, cycling, swimming, walking, jogging, running, hiking, weight lifting, etc.). Specific results from involvement in a physical recreation activity are an increased lung capacity, reduced resting heart rates and lower blood pressure levels. Other benefits consist of decreased body fat mass, increased lean body mass, increased muscle strength, and improved structure and function of connective tissues (ligaments,tendons,cartilage) and joints. Weight bearing and strength building activities help sustain bone mass and reduce the incidence of trauma induced fractures. Moderate physical recreation activities are known to reduce the symptoms of mild or moderate depression and anxiety through improved self -image, social skills, and mental health. Noted psychological benefits of recreation activity are as follows: perceived sense of

freedom, independence, and autonomy, enhanced self-competence through improved sense of Self-worth,Self-reliance,and self-confidence,better ability to socialize with others, including greater tolerance and understanding, enriched capabilities for team membership, heightened creative ability, improved expressions of and reflection on personal spiritual ideals, greater adaptability and resiliency, better sense of humour, enhanced perceived quality of life, more balanced competitiveness and a more positive outlook on life.Involvement in recreation activities releases stress and tension from the perils of society. Braum (1991) recalls the findings of researchers that state,"Relaxation tends to alleviate many of the symptoms of stress. Activities that fill leisure time, performed within a group, strengthen social support ties known to negate stress" .The idea of choice in leisure presents opportunities where one can recreate.

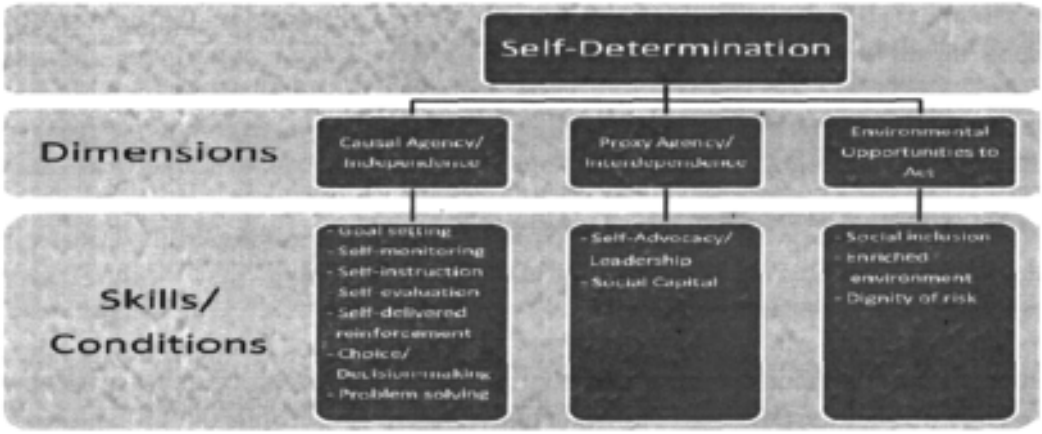
3.7.3 Techniques of Teaching Self- Determination

Self-determination and control over one's own life is critical for all individuals, including individuals with developmental disabilities (Kennedy, 1996). Self-determination provides the conceptual foundation for policy, vision, and social systems in the field of developmental disabilities. As the field has evolved from early assumptions about "handicap" and "disability" the central role of the individual has been captured by the construct of "self-determination." A need exists to link the vision with both existing empirical evidence, and overt description of the practices that will help us better realize a society in which self-determination represents the lifestyle of all citizens. Promoting self-determination has become best practice in the education of students with intellectual and developmental disabilities. The purpose of this practice guide is to review and summarize existing practices that enhance self-determination and the empirical support associated with those practices. Self-determination offers a broad vision with personal implications. It is a construct with multiple facets and as such there will be no single practice or package of practices for achieving self-determination that applies to all people or all contexts.A full discussion of the definitional and theoretical frameworks that supports the work of the Gateway to Self-Determination project can be found in Wehmeyer et al. (2010). In summary, approach self-determination within a social-ecological approach in which self-determination is a psychological construct that refers to self- (vs. other-) caused action-to people acting volitionally, based on their own will. Volition refers to the capability of conscious choice, decision, and intention. People who are self-determined, as such, are causal agents in their lives; they cause or make things to happen in their lives. They do that through self-caused action (causal agency) that has a clearly specified goal or purpose or through actions of others taken on one's

own behalf, referred to as proxy agency. Core assumptions associated with this approach are:

- All people can engage in self determination
- Disability or severity of disability does not preclude opportunities for people to become self-determined individuals
- Self-determination is a multidimensional construct
- Promoting self-determination for any person will require the unique combination or clustering of practices that meet the needs of that person. Delivering the promise of self-determination will seldom involve one practice, and will typically require individualized application of multiple practices.
- Self-determination is affected by not only by the skills and beliefs of the individual but by the social and societal context in which they live.

Within our social-ecological approach, activities to promote self-determination (e.g., interventions) might focus on building a person's capacity to perform actions leading to greater self-determination (problem solving, decision, making, goal setting, self-advocacy, etc.), focus on modifying the context or the environment in some way to better enable someone to make things happen in their own lives, or to provide supports (e.g., technology) that enhance self-determination. For purposes of understanding these activities, in addition to activities derived from the theoretical models described in Wehmeyer et al. (2010), we turn to The Developmental Disabilities Act of 2000, which defined "self-determination activities" as "activities that result in individuals with developmental disabilities, with appropriate assistance, having: (a) the ability and opportunity to communicate and make personal decisions; (b) the ability and opportunity to communicate choices and exercise control over the type and intensity of services, supports, and other assistance the individual receives; (c) the authority to control resources to obtain needed services, supports and other assistance; (d) opportunities to participate in, and contribute to, their communities; and (e) support, including financial support, to advocate for themselves and others, to develop leadership skills, through training in self-advocacy, to participate in coalitions, to educate policymakers, and to play a role in the development of public policies that affect individuals with developmental disabilities."



What is Self-Determination? Why is it Important?

Self-determination is broadly defined as having abilities and opportunities to steer one's life in a direction that contributes to a personally satisfying life.1 Equipping students with the skills, attitudes, and opportunities to play an active and prominent role in their learning and planning for the future is now considered a best practice in the field of special education. Research suggests students with disabilities who are self-determined may:

- Be more academically successful and engaged in schoolwork
- Contribute actively to their educational and transition planning
- Experience more postsecondary involvement
- Report higher quality of life and more positive experiences in early adulthood

❖ What are Choice-Making Skills? Why are they Important?

Choice making involves giving students opportunities to choose instructional activities, partners, and schedules. In each instance, students should be allowed to choose among several options based on their preferences. Giving students the opportunity to make choices enables them to develop skills of demonstrating control and responsibility in their environment. Incorporating choice making into the daily activities of students with intellectual and developmental disabilities has been associated with a higher level of task engagement and a lower level of problem behaviour.

Example Strategies for Educators

Provide two or three learning activity options and allow students to make a choice

based on their preferences. As students become more proficient with making choices, they can be given more options to choose from. For example, in a physical education class, a student could select from a variety of activities (e.g., kickball, jumping rope, or running) for a 30-minute period of free exercise time.Allow students to choose how they will demonstrate mastery of a specific curriculum topic (such as cultural awareness). For example, a list of choices could include a written report, poster presentation, slideshow, collage, native meal, dance, or customs overview.When appropriate, give students choices about how they will carry out particular learning tasks, such as where they complete their afternoon assignment or with whom the choice-making process to help students better understand how to make choices on their own. For example, a teacher could model how she chooses what to eat for lunch given select cafeteria options by thinking out loud and then have students make their own choice.For students who have difficulty making choices independently, give advance notice of the options they will need to choose from, visuals of the available options, or more information about each option

- ❖ WHAT ARE DECISION-MAKING SKILLS? WHY ARE THEY IMPORTANT?

Decision making involves analysing a situation to determine possible outcomes, choosing the best scenario for yourself at that particular time, and following through with your decision. Students who are more self-determined will consider how their decisions affect themselves and others. Decision making is especially important at the secondary level, when students are considering future career and postsecondary pathways they will take in adulthood. Decision making involves consideration of all alternatives, positive and negative consequences, and what is the best for oneself. This collection of skills is important for everyday life situations-both in and out of school-where students will be faced with the need to make wise decisions.12

Example Strategies for Educators

Incorporate opportunities to make decisions based on the full list of options, the costs and benefits of each option, and analysing any bias present in picking various options.13 For example, talk with students as they decide what they want to do after high school. Options might include finding a job, going to college, and/or volunteering. Encourage students to adopt the process of stopping what they are doing, thinking about the decision options they have, and acting upon the most appropriate option.14 Teachers or counsellors could allow students to practice using this process in "real world" situations, such as deciding whether or not to engage in an argument with someone. Before acting on their emotions, students should decide whether it would be most appropriate to defend their

perspective or walk away from the situation. Teach students how one decision can have multiple impacts, such as deciding whether or not they should volunteer with a school club or community organization. While the decision may allow them to gain valuable skills and experiences, it may result in them having less time for friends. Teach "group-think" decision activities based on role-plays, stories, and videos when students are first developing this skill. These activities allow students to practice decision making in a safe environment.

❖ WHAT ARE PROBLEM-SOLVING SKILLS? WHY ARE THEY IMPORTANT?

Problem solving refers to the capacity to identify a problem, generate possible solutions, evaluate the effect of each alternative, and ultimately choose the best option.15 Often, students use problem-solving skills during activities, tasks, or situations that do not have an obvious or pre-determined solution.16 Problem-solving skills are especially useful as students encounter situations requiring independence and competence in school and community activities. Further, these skills can assist students in community-based and work settings, where they often are expected to engage in tasks independently. Problem solving can also help students navigate social difficulties with peers, teachers, family members, or other members of the community.

Example Strategies for Educators

Help students develop the ability to find an appropriate solution when faced with a challenge. For example, if a student forgets her homework, cheating or lying would be inappropriate solutions and could potentially result in negative consequences. However, using free time to complete the assignment again would be a better solution with more positive outcomes. Have students reflect on the way they solved a challenging situation and make adjustments for future situations so they may enhance their problem-solving skills. For example, after participating in a group activity, talk to the students about their role in the exercise and whether they worked well with others. Present and explain a limited number of solutions for younger students or students who struggle with solving problems effectively. For example, if a student leaves a necessary book at school, the student's parent might present possible solutions, including asking to borrow the book from a friend, calling the school to retrieve the book, or checking the local library. Teach students conflict resolution strategies for times when issues arise with their peers, co-workers, family members, or teachers. For example, if a student becomes frustrated with another teacher in the building, brainstorm ways the student could address the issue with that teacher in appropriate, respectful, and mutually beneficial ways.

❖ WHAT ARE GOAL SETTING AND ATTAINMENT SKILLS? WHY ARE THEY IMPORTANT?

Goal setting and attainment skills require students to identify something they wish to work toward and develop a plan to reach that particular objective. When learning how to set and attain goals, students should be faced with challenging yet feasible objectives that are aligned to their likes and dislikes. Learning how to set and attain goals may enable students to better understand and work toward what is most important to them. The attainment of these goals may be encouraging to students as they seek direction and independence in school and life endeavours.

Example Strategies for Educators

Work with students to develop plans that include steps to reach a goal and any necessary resources. It is important to support students in considering the process of reaching the goal and not narrowly focusing on only the end result. Help students set manageable and realistic goals that can be met in a short time period (e.g., a single class period, a day at school, or over the weekend). For example, a student might set a goal of reading a certain amount of pages in a 30-minute block of silent, sustained reading. The student can learn to track progress and adjust her goal over time. Display students' academic and personal goals publicly and positively, and have frequent discussions about the progress being made to reach the goals. Encourage students to set goals they might find less interesting or preferable (e.g., academic or organizational goals) in order to encourage the development of their work ethic.

❖ WHAT ARE SELF-ADVOCACY AND LEADERSHIP SKILLS? WHY ARE THEY IMPORTANT?

Self-advocacy and leadership skills involve having the ability and confidence to stand up for oneself, as well as having the knowledge of what to advocate for in achieving one's goals. The ability to lead requires students to be assertive and negotiable, communicate effectively, and utilize interpersonal skills. These skills are important as students seek to promote their interests and goals in post-school employment and community involvement. As students communicate with peers and community members, their self-advocacy and leadership skills may assist them in being understood and supported by others. Further, learning to work in teams, either as the leader or a cooperative member, may be beneficial in school or work settings.

Example Strategies for Educators

Design role-play situations where students practice advocating for themselves in a safe

environment. These situations should reflect encounters students will likely face in everyday community and employment settings. Examples may include ordering a meal at a restaurant, volunteering for a community event, sending an email message, or interacting with co-workers. Encourage students to advocate for their own preferences, desires, or opinions when appropriate. For example, if a student has a different opinion than the rest of the class, encourage her to speak her mind. It may also be beneficial for students to practice these skills in advance of participating in IEP and transition meetings. Model differences between acting assertively and acting aggressively so students gain an understanding of socially appropriate interactions. Teaching students interpersonal communication skills may allow them to successfully voice their opinion without offending others. Pair students with an older student or adult "mentor" who has similar interests, strengths, or limitations. This older person may be able to offer advice and anecdotes from previous experience where they exercised self-advocacy and leadership.

- ❖ WHAT ARE SELF-MANAGEMENT AND SELF-REGULATION SKILLS? WHY ARE THEY IMPORTANT?

Self-management and self-regulation skills involve students monitoring and assessing their own behaviour, time management, and learning. These skills build upon students' competencies in the development of choice making, decision making, problem solving, and goal setting. As students' progress through school and prepare for life in the community, they should turn less to teachers and others first and instead become more self-directed. By learning to manage and regulate their daily activities, students may achieve more positive and productive outcomes, such as academic success, job retention, and employer satisfaction.

Example Strategies for Educators

Help students learn how to reflect on their behaviors by having them create a journal of their daily academic, behavioural, and social goals. This allows students to explicitly set their own daily and weekly goals. Students should be encouraged to effectively manage and regulate their own behaviour to meet these goals. Offer supportive feedback when students are correctly self-managing their learning or social behaviors. When students are struggling to manage themselves, offer limited support until they are able to independently correct their actions. For example, if a student is continuously talking to her neighbour during an assignment, offer reminders of the importance of staying on-task and not preventing others from learning. Provide instruction to students on how they should deal with various behaviors and emotions, such as anger or sadness. Develop a procedure with individual students so they can appropriately calm down when upsetting

situations occur without interrupting instruction or distracting others. Support students in directing their own academic progress and instruction by reflecting on their learning preferences, academic strengths and areas for growth, and academic goals.

- ❖ WHAT ARE SELF-AWARENESS AND SELF-KNOWLEDGE SKILLS? WHY ARE THEY IMPORTANT?

Students who possess self-awareness and self-knowledge recognize their own strengths, limitations, and abilities. Moreover, they can apply this understanding to improve on their previous experiences and accomplishments. Students should gain increasing awareness about how they best learn, communicate, and appropriately deal with their emotions. When faced with difficult situations in school, professional, or family settings, they may utilize these skills to focus on their strengths and achieve success.

Example Strategies for Educators

Emphasize to students that everyone has their own abilities and unique personalities. To help students understand how people can be different, design a class activity where students role-play as if they were someone else to accept various perspectives, prejudices, and stereotypes often held by others. Have students reflect on their strengths and limitations and write these down in a journal. Then talk individually with students to brainstorm ways to maximize their strengths and minimize their limitations in school, interactions with peers, future employment settings, and community activities. Provide case studies on situations students may encounter in and out of school. For example, analyse a narrative in which a student noticed others becoming frustrated with her. Work together to determine what actions on the student's part may have caused the other students' reaction. Have students reflect and write down how they would handle this situation and how this hypothetical encounter would make them feel.

6.6 Lets Sum Up

Independent living skills make every person confident about own personality. Not only efficient people but also impaired person gets benefits from these. It helps for doing day to day's works smoothly without any hesitation. After got proper training every single of work disable child can able to do independently. Orientation and mobility skill make the child for capable of travelling anywhere at any time without any other's help. On the other hand daily living skill makes an impaired child self concern about their everyday living hood. Whereas sensory training prepare the child for using their remaining senses almost fully. And last of all every type of living skill help the child to overcome their

impairment and change their behaviour which match with their surroundings or can able for making easy adaptive nature as society want. Most of all it must be said that independent living skill help the impaired person being an individual socialized man.

6.7 Check Your Progress

1. What is independent living skill?
2. Write the difference between orientation skill and mobility skill?
3. What is sensory efficiency?
4. How you develop social interaction skill in visual impaired child?
5. Write down any one daily living skill's task analysis process.

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Unit - 4 ❑ Curricular Adaptation

4.1 Introduction

The classroom offers a dynamic, productive space where ideas, values, information, knowledge are shared and conveyed. Organization of the class and interactions amongst its fundamental components i.e., the students, teacher and curriculum-transactions, create potential for the group to move from a state of not knowing to one of knowing. In light of the introduction of several educational innovations and initiatives, the attention drawn and the urgency to make

classrooms better call for revisiting and revising practices. Creating an inclusive culture in classroom will involve attending to the curriculum. Curriculum includes the components of a course of study. These consist of the syllabus, textbooks and needed teaching learning materials, teaching strategies/processes and assessment and evaluation processes.

In recent years, increasing focus on inclusion has brought significant attention from educators, policy-makers, researchers and economists, to schools and classrooms in India. Constitutional provisions, legal mandates such as the Right to Education (RTE)

Act, 2009, Persons with Disabilities (PWD) Act, 1995 and other measures have made improvements in India's education system. We can find that there is a changing nature of the student population and increased integration of students with special needs in mainstream education. It demands even greater flexibility in curriculum and creativity from teachers. The lack of specific curricular guidelines for students with special educational needs in post-primary schools, for students with mild general learning disabilities in special and mainstream schools and for students with severe and profound disabilities was identified as a significant shortcoming. Current research indicates that there is no simple answer to the provision of curriculum for special needs.

In the present unit we will discuss the curriculum adaptations strategies needed to be carried out for children with visual impairment. We would also try to understand the role of teacher and other professionals of educational institution in curricular adaptation for catering specific needs of students with visual impairment.

4.2 Objectives:

When you will complete this unit, you will be able to:

- Explain the need and importance of curricular adaptation for students with visual impairment.
- Illustrate how curricular and lesson or unit adaptation could be carried out for students with visual impairment.
- Understand the role of teacher in curricular and lesson adaptation for catering needs of students with visual impairment.
- Demonstrate techniques of curricular adaptation for the students with visual impairment and related competencies.

4.3 Concept of Curricular Adaptation

As discussed earlier that Right to Education Act, 2009 led to the changing composition of classrooms. Students with varying levels of abilities are now widely available in the classrooms. It also creates an obvious challenge for the education system, teachers and professionals to cater the wider range of specific educational needs. 'They cannot, and

should not, be taught in the same manner as with other children.

The curriculum consists of all the learning experiences designed or encouraged to promote the educational aims and objectives of the educational programme of any institution. It sees curriculum development as a dynamic process, which is evolving rather than established. The curriculum assumes that institution or appropriate authority will adapt and interpret the curriculum where snecessary to meet their own requirements. There is no fixed formula or procedure for adapting general education curriculum to meet each student's needs including children with disabilities. Each teacher, each student, each classroom has some unique features and requirements. Accordingly, adaptations are specific to each specific situation. Keep in mind also that curriculum docs not always need to be modified.

Some approach upholds the idea that one cannot create a modified curriculum for the specific cognitive development of groups of people, and that all that is needed is technical accessibility resources for these groups. Another approach, however, claimed that the development of the single curriculum, without any adaptations that take diversity into account, can reinforce the

excluding practices, now under the form of abandoment and neglect of those students at "the back of the classroom", and lead to the dangerous labels of "learning difficulties". These colleagues argue that the fundamental thing is the creation of the "inclusive school", the one that is so flexible that it is open to receive everyone, and also the necessary curricular adaptations for everyone's needs to be met. They claim that the curriculum is unified, anyway, only that at the moment of implementing it, instead of a single strategy, adaptations are implemented.

4.3.1 Need and Importance of Curricular Adaptation

National Curriculum Framework (NCF) 2005 underlines the significance of making curriculum "an inclusive and meaningful experience for children" stating "this requires a fundamental change in how we think of learners and the process of learning." Attending to curriculum to define the classroom culture and the approach to the teaching-learning processes is thus a significant aspect of teacher's work in fostering inclusivity in their work with students. It is important that the school should provide enabling experiences so that children with visual impairment experience success in learning and achievement up to their potential. This is only possible if the teachers respond to the specific needs of children in a classroom through curriculum adaptations. Without adaptations/

modifications, some children in the classrooms would never be challenged to perform up to their potential, while others may not be able to ever experience success. In order to meet the diversity, there is a need for adaptations of the regular curriculum, may be involving organizational modifications in the goals and contents, In the methodologies, in the didactical organization, in the temporality, and In the evaluation philosophy and strategies, making it thus possible to meet everyone's educational needs in the creation of knowledge.

Such adaptations need, necessarily, to involve the whole institution's team avoiding the transfer of responsibilities. Curriculum adaptations require strategies for effective teaching in the classroom that takes into consideration the individual needs of all children including children with visual impairment. It has also been seen that adaptations if carried out effectively facilitate both academic and social participation in class activities and can be used across various settings to facilitate success. Adaptations can also help in creating partnerships where parents and teachers can work together to evaluate/ implement adaptations.

4.3.2 Scope of Curricular Adaptation

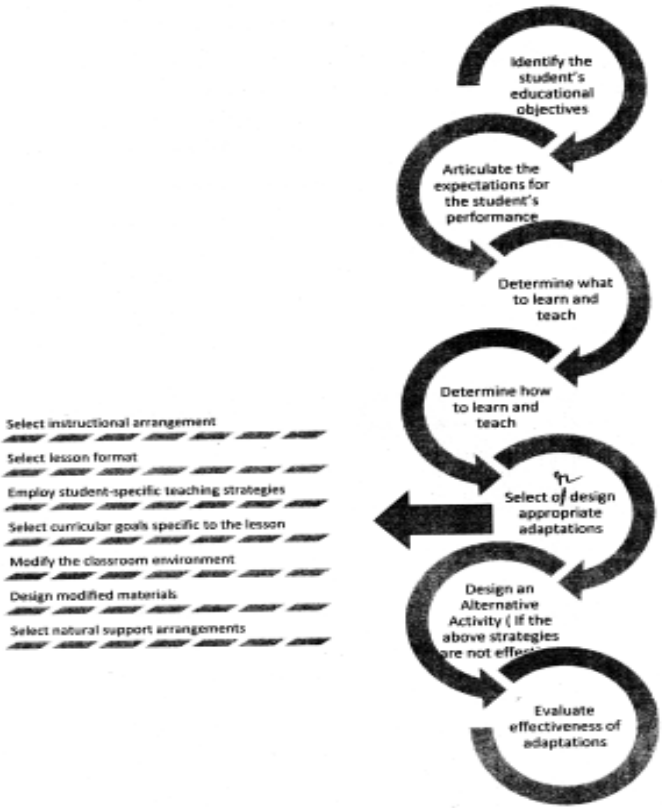
As we know that curriculum is a comprehensive concept therefore, adaptation in curriculum also has several implications. We can also say that there is extended range or scope for implementing adaption strategies from planning to content and classroom instruction to assessment.

Broadly, adaptation could be understood In two categories. First is accessibility adaptation and second is pedagogical adaptation of the curriculum. Accessibility adaptation is about eliminating architectural barriers, whereas pedagogical adaptation is about changes in and methodological barriers in curricular area in children with disabilities.

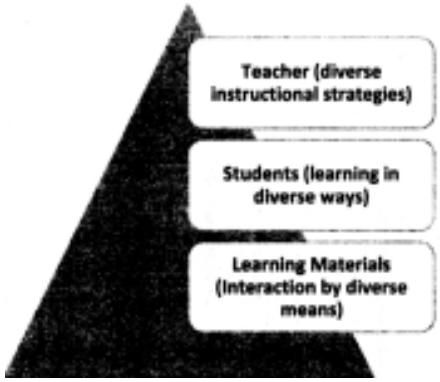
Majorly of these types of adaptations are discussed in context of inclusion of students with special needs in regular classes. On the accessibility dimension, it was stressed over accessibility and school permanence and do not necessarily assure knowledge acquisition and teaching quality directly. At different points it has been advocated that the students with disabilities are thrown into regular classroom without proper pedagogical preparation of' the teachers or curricular adaptation. The worry highlights towards mere physical inclusion of the students with disabilities. How to teach the student with disabilities are together with the other students is the biggest "knot" and challenge of inclusive Education. Because, the point inclusion is no longer a philosophy, an ideology or a policy. Instead of that it becomes a concrete action in real-life situations, involving individuals with specific difficulties and needs.

4.4 Process of Curricularation

In a classroom environment, quality education would depend upon a number of factors.



Crucial amongst these are understanding of special needs of' learners, infrastructural facilities, modified environment that is warm, welcoming and inclusive, trained motivated teachers, flexible educational content, strategies for teaching and evaluation, sufficient teaching time, access of every child to teaching learning materials and continuous onsite support to the teacher by specialists if required. A curricular adaptation involves an activity or skill related with decision- making process. Attaining correct, proper and wider adaptation in curriculum is desirable. The following decision-making flowchart can be used to conceptualize the process of selecting and implementing curricular adaptations. It should be used as a tool for a team in determining the adaption according to individual student's needs.



4.5 Reasonable Accommodation

It is important to correlate adaptations with the classroom activities. In other words, we are not adapting for adaptations sake but, to meet the student's needs as identified. Therefore, accommodation is expected in all three areas i.e. teachers, students and learing materials:

Teachers teaching content using diverse strategies:

These include strategies like verbal, visual, kinesthetic, written, proceeding from simple to complex, concrete to abstract, step by step, scaffolding, group work, peer tutoring, using prior knowledge, brainstorming, drarnatisation, giving extra time, givmg alternative activities, drill activities, shortening assignments, orgaruzrng excursions/ trips, using large fonts, Braille or tacitly coded material, toys or blocks, real life experiences, real objects, children's literature, magazines etc.

Students expressing learning in diverse ways:

These include strategies like oral, written, tactual, gestures, drawing, acting, ICT, framing questions, paired reading, storytelling, song, rhymes, role play, discussions, debates, language games, flash cards, quizzes, graphic organizers, outlining passages, highlighting, and paper cutting/ folding, etc.

Using different learning materials:
Learning materials like calculators/talking calculators, Taylor frame, abacus, Brailler, geometrical kit, Tactile board, Tactile graph sheet (for bar-graph, histograph etc), 3-d blocks and figures, flash cards or pictures on paper, posters, chalkboard, projection screens, computers, books on tape and computerized text reader, screen readers, voice synthesis, scanners, daisy books, multimedia gadgets like CDs, MP3s, talking watches and talking clocks, videos/movies, modeling material like clay, textured objectslraised line paper, games and puzzles, etc, can
help all children with visual impairment learn.

4.6 Strategies of Curricular Adaptation for Different Subjects

Mostly children with visual impairment learn with the help of the non- visual modes viz, touch involving real, concrete materials; listening, smell and taste. In addition they exhibit the following needs across all subjects at elementary level:

- Visual stimulation;
- Experiential learning (observational/experimental/factual learning);
- Incidental learning (learning that happens naturally In the environment);
- Understanding of concepts like laterality (localization), time, position, size, shape, association, discrimination, sequence, quantity, sensations, emotions, actions, colors (to the best visual ability), matching and classifying;
- Visual perception - learning from pictures, visual diagrams-maps, charts, graphs, tables, etc. and;
- Slower cognitive processing in the earlier years till coordination of senses has developed.

Based on the above consideration following strategies can be adopted lor teaching different subjects to children with visual impairment:

4.6.1 Mathematics

To make the child learn the concept of 'Time', several real life examples can be given. When one is teaching the concept of 'Volume', group activity can be conducted. For example, take water bottles of two different sizes and make the children fill the bottles with water. One bottle can be filled with, say, three glasses of water while the other

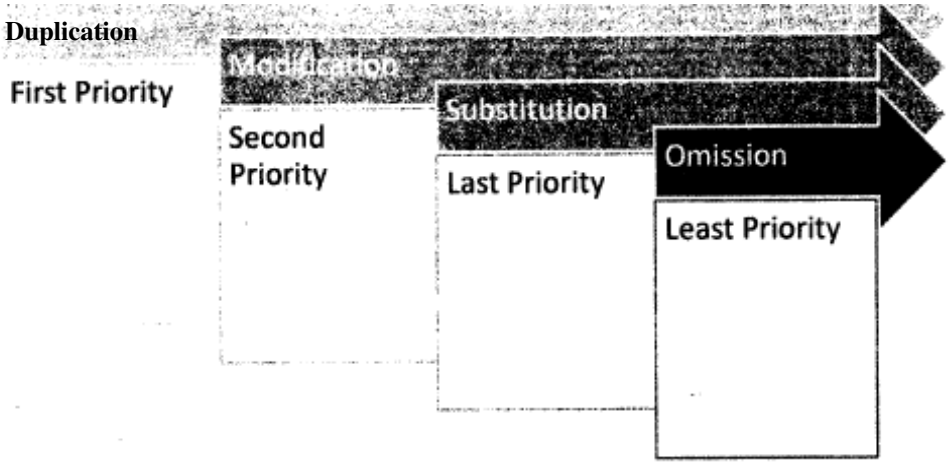
may just take two glasses to fill. Hence the capacity of the first bottle is more. Children can take turns in filling the bottles, counting and recording.
The concept of 'Money' can be taught by first introducing notes and coins of different sizes. Then organize fun activity like arranging game of being shopkeeper and customers and ask them to purchase items with the money given to them. The child with VI can explore the notes and coins tactually and repeatedly to understand the difference. Make use of different senses for teaching mathematical concepts, for example, auditory (verbal descriptions) and tactual
(converting visual figures into embossed tactile figures).

4.6.2 Social Sciences / Natural Sciences

As much as possible real experiences are to be provided to the children with visual impairment. To explain 'Function of roots', children can be asked to touch a plant uprooted just then and then a plant which is kept uprooted for few days. The child can differentiate between plants that are alive or dead. To differentiate between different animals, apart from tactile pictures or models, VI students can also be introduced to the sounds of the animals. To make the children
aware of different types of material like glass, gold etc., they can be asked to touch and feel different textures and then help them talk about it.
Different role-play and other methods could be adopted for understanding of judiciary parliament, assembly and other concepts related with social science. Involve students in exploring the environment using other senses like smell and touch and organise excursions, trips and visits for the students to historical places.

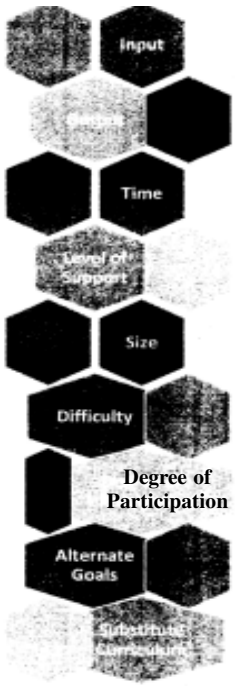
4.6.3 Language

To help the child to start 'making sentence' about him/her, she can be allowed to experience by touch the physical attributes to help make sentences. For example, child can be asked to touch a warm cup and asked to make a sentence: 'the cup is hot'. Similarly, auditory input can be given by different sounds. For a visually impaired child, pictures should be explained verbally in detail like—what, who, where and when. Based on the comprehension, help them to summarize, give oral answers. Experience for understanding can be enhanced by tactile and kinesthetic input. For example, differences or similarities between lassi and tea. Use of acting, dramatization and role play helps the child to understand better.



4.7 Principles of Adaptation

Students with visual impairment learn concepts by using their auditory, tactile kinesthetic and olfactory senses, with appropriate modification and adaptation. Adapted teaching aids, course content and methodology involve special approaches and presentation styles to provide them optimal learning experience. It also helps students with visual impairment to understand concepts and to develop social interactions with other students.



Mani (1992) suggested that the necessary adaptations could be made through processes of duplication, modification, substitution and omission without changing the instructional objectives. These four principles could be widely used for adapting course materials or, conversion of books in accessible formats. Duplication of the content or teaching materials should be carried out at most possible cases. It is just copying things with originality in acessible format (eg. Braille, Large print). When, duplication is not possible one can proceed for modification in the content. If modification is also not possible then content or material could be substituted with other which are as per needs of students with visual disabilities. Omission is last and least priority option to just remove or omit the content which is creating any hindrance in learning or could not be even substituted with other content or material.

Ebeling, Deschenes & Sprague (1994) suggested nine types of adaptations in their publication' Adapting curriculum and instruction' from Institute for the Study of Developmental Disabilities. These nine types of adaptation strategies could be used for children with visual disabilities are as follows:

i) Input

Input suggests adaptation in the way instruction is delivered to the learner. For example, planning more concrete and substitute examples; provide hands-on activities; place students in cooperative groups.

ii) Output

This area allows adaptation in how the learner can respond to instruction in an educational setting. For example: allowing verbal responses for children with visual impairment instead of written response; allow students to show knowledge with hands-on materials.

iii) Size

This suggests the adaptation of the number of items that the learner is expected to learn or compete in the classroom as well as home assignment. For example: reducing the number of science terms a learner must learn at anyone time.

iv) Time

Adaptation in time permits or encourages teachers, administrators to adapt the time allotted and allowed for learning, task completion or testing. For example: individualizing a timeline for completing a task.

v) Difficulty

Adapt the skill level, problem type, or the rules on how the learner may approach the work. For example: Allow a calculator for math problems; simplify task directions; change rules to accommodate learner needs.

vi) Level of Support

Increasing the amount of personal assistance with specific learner also desirable or, sometimes become essential for children with visual impairment. For example: assigning peer tutors or extended teacher support.

vii) Degree of Participation

Adapting the extent to which a learner is actively involved in' the task comes under this principle of the adaptation. For example : in geography, have a student hold the globe, while others point out the locations.

viii) Alternate Goals

Adapting the goals or outcome expectations while using the same materials could also be opted when above all seven principles are unable to bring desirable adaptation. For example: In social studies, expect one student to be able to locate just the states while others learn to locate capitals as well.

ix) Substitute Curriculum

Providing the different instruction and materials to meet a learner's individual goals could also be adopted when one to seven principles are unable to bring desirable modification. For example: Individualize a timeline for completing a task; pace learning differently (increase or decrease) for some learners.

4.8 Lets Sum up

We can find that there is a changing nature of the student population and increased integration or students with special needs in mainstream education. It demands even greater flexibility in curriculum and creativity from teachers. Students with varying levels of abilities are now widely available in the classrooms. They cannot, and should not, be taught in the same manner as with other children. The curriculum assumes that institution or appropriate authority

will adapt and interpret the curriculum where necessary to meet their own requirements. There is no fixed formula or procedure for adapting general education curriculum to meet each student's needs including children with disabilities.

NCF, 2005 underlines the significance of making curriculum "an inclusive and meaningful experience for children" stating "this requires a fundamental change in how we think of learners and the process of learning." Without adaptations/ modifications, some children in the classrooms would never be challenged to perform

up to their potential, while others may not be able to ever experience success. Such adaptations need, necessarily, to involve the whole institution's team avoiding the transfer of responsibilities. Curriculum adaptations can evolve various strategies for effective teaching in the classroom that takes into consideration the individual needs of all children including children with visual impairment.

Broadly, adaptation could be understood in two categories. First is accessibility adaptation and second is pedagogical adaptation of the curriculum. Accessibility adaptation is about eliminating architectural barriers, whereas pedagogical adaptation is about changes in and methodological barriers in curricular area in children with disabilities. Adaptation could also think as per needs or different subjects like mathematics, science, social science and language.

The necessary adaptations could be made through processes of duplication, modification, substitution and omission without changing the instructional objectives. These four principles could be widely used for adapting course materials or, conversion of books in accessible formats. Ebeling, Deschenes & Sprague (1994) suggested nine types of adaptations are as follows:

- Input
- Output
- Size
- Time
- Difficulty
- Level of Support
- Degree of Participation
- Alternate Goals
- Substitute Curriculum

4.9 Check your progress

Solve following problems :

4.9.1 Match the table:

Curricular Adaptation Principle	**Adaptation Action**
Output	Adaptation in time
Time	different instruction and materials
Size	Adapting the goals or outcome expectations
Alternate Goals expected	adaptation in the number of items that the learner is to learn
Substitute Curriculum	Adapting the extent to which a learner is actively involved
Degree or Participation	adaptation in how the learner can respond

4.9.2 Choose correct Answer:

i) Pedagogical adaptation involves
   a. Use of assistive devices in the classroom
   b. Using White boards
   c. Using appropriate methodology
   d. Changing Course

ii) 'Input' in curricular adaptation principle is about
   a. Adapting instruction
   b. Adapting student response

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Unit - 5 ❑ Curricular Activities

Structure

5.1 Introduction

You must be aware with the term curriculum. Curriculum is the heart of any educational system. It refers to the all lessons, academic content taught and other activities carried out in a school or in a specific course or programme. The children with visual impairment should have access to the core curricular activities for which they need to learn expanded core curriculum, which are specifically designed to meet unique needs of children with visual impairment. In order to master these subjects, and to eventually live and work independently, students with visual impairment must learn an additional set of skills under expanded core curriculum. Essential life skills including social interaction, independent living, career education, and communication modes must be taught alongside basic academics. Recreation, leisure, games and sports are also key components of the expanded core curriculum for healthy life and overall development. Adapted physical education and creative arts also form a part of this domain.r Certain curricular adaptations and modifications are required for students with visual impairment to access visually oriented ideas. In this unit you will be oriented with different recreational activities and necessary adaptation thereof for the children with visual impairment.

5.2 Objectives:

We know that curricular activities under expanded core curriculum is important for children with visual impairment. In this unit we will explore the need, importance and facilities available for recreational activities including yoga, games and sports for children with visual impairment as part of curricular activities. When you will complete this unit, you will be able to:

- ***Sensitize*** about recreational activities for children with visual impairment as part of curricular activities.
- ***Demonstrate*** techniques of teaching functional recreational and physical education skills.
- ***Explain*** importance and components of recreational skills development for children with visual impairment.
- ***Illustrate*** how physical education and creative arts activities can be adapted for the children with visual impairment.

- ***Understand*** the role of organisations in promotion of games and sports among the persons with visual impairment.

5.3 Curricular activities - Meaning and Need for Adaptation

You can envisage curriculum from different perspectives. What societies envisage as important teaching and learning constitutes the curriculum (UNESCO, 2016). However, at classroom level curriculum may be altered through a range of complex classroom interactions, and what is actually delivered. In some cases, people see the curriculum entirely in terms of the subjects that are taught, and as set out within the set of textbooks, and forget the wider goals of competencies and personal development. Further, a curriculum framework is important to sets the subjects within this wider context,' and shows how learning experiences within the subjects need to contribute to the attainment of the wider goals. All these issues form a curriculum system which works as guiding function for education agents and stakeholders. The involvement of stakeholders (especially of teachers) in the development of the curriculum is of vital importance for ensuring ownership and sustainability of curriculum activities (UNESCO, 2016).

The activities pertaining to the school curriculum may be referred to as curricular activities. Such activities are part and parcel of the instructional and other educational programmes entirely handled by the school staff. Curricular activities include all activities of classroom interaction for improving knowledge, physical education for fitness and recreational activities for harmonious integrity of mental and physical energy of the children. Curricular activities including all co-curricular activities are equally important for all round development of the students.

Children with visual impairment need systematic and purposeful instruction beyond the general education curriculum to gain the skills necessary to be independent, productive, educated members of society. Recreational activities are one of the important aspects of curricular activities for students with visual impairment. Although planning is necessary to include students in the recreational programme as it is an important component of the standard curriculum. In order to make the programme accessible to students, there are adaptations and specialized equipment. These may need to be employed to ensure access with full enjoyment of the recreational programme. Prior to determining appropriate adaptations, it is also important to first understand the functional vision of the student. However, there should be effort to make instructional component as organized as possible for students with any visual impairment.

5.3.1 Recreation, Leisure, Games and Sports in Curriculum

Recreation and leisure both terms are used to represent what people choose to do in their free, unobligated time. Leisure time is any free time that can be used to pursue personal interests whereas recreation is an individual's preferred pleasurable and enjoyable activities in which they engage during leisure time (Expanded Core Curriculum Advocacy, 2016).

Recreation is a highly social phenomenon organized around friendships or family groups, and these social interactions buffer the effects of stress on health. Recreational activities can be sedentary in nature, like knitting, chess, playing musical instruments, and even social networking in person or on the computer devices. It can also be active and enhance physical fitness and well-being. Recreation, fitness, and leisure are some of the instructional areas that need to be addressed. Knowledge of recreation, fitness, and leisure provides critical supports to a wide range of student capacities in the areas of social interaction, orientation and mobility, independent living, and self-determination. Developing recreation, fitness, and leisure skills can have far reaching positive effects on the lives of persons with visual impairment. Research has shown that recreation is an important factor in quality of life for everyone, including people with disabilities (Expanded Core Curriculum Advocacy, 2016).

Participating in recreation, fitness, and leisure helps children with visual impairment develop social, career, and problem solving skills. Engaging in this area also increases self-esteem, self- determination, and overall health (Dignan, 2012). Even if children with visual impairment choose not to participate in every sport or recreation activity on their own time, they should learn what the rules are and how to play them (Lieberman, 1996). Knowing the rules of different games and keeping well-informed of sports offers a student with visual impairment opportunities for social interactions with peers.

Do you know?

How Game is different from Sports?

A game involves more than one person and a sport pertains to only an individual's skills and performance. In a sport, it is the sportsperson or the individual who determines the outcome.

Whereas, an individual's talent does not much determine a game. It is the entire

performance of the players that detetrnines the winner in a game. Another difference is that sport is based on physical energy and the game is based on mental strength.

How Leisure is different from Recreation?

Leisure is the spare or rest time in the daily life of a person when he is not occupied by work, studies, sleep etc. Recreation is indulging in thrilling and exciting activities, to derive some pleasure and have fun in one's leisure time. While some people just take rest, sleep, watch

TV, or play video games on computer in their leisure time, there are many who like to go out for recreation and indulge in activities like cycling, hiking, sailing, surfing, swimming, fishing, etc to have some fun.

5.3.2 Need for Adaptation

You might be aware that the core curriculum designed for children is generally appropriate for visually impaired children. However, some adaptations to the learning materials and the teaching approaches have to be made so that the learning needs of visually impaired children can be met. Similarly, adaptation in recreational activities is important and hence recreational materials and strategies to be modified by considering needs of children with visual impairment. To teach recreational skills to children with visual impairment, we should adopt a consistent, realistic and flexible approach in extended core curriculum planning and implementation.

Due to limitation in visual sensation recreation and fitness for children with visual impairments cannot be learned by passively observing others at play or by imitation. Recreation must be intentionally and systematically taught with disability-specific techniques and safety in mind. The foundation for recreation can be learned in physical education, games or, sports period with necessary accommodations and adaptations. The teaching of recreation and leisure skills to blind and visually impaired students must be planned and deliberately taught, and should focus on the development of life-long skills.

5.4 Adaptation of Recreational Activities

As with other students, students with visual impairment need to .be actively involved in recreational activities that teach lifelong skills to maintain their health. In order to make the activities accessible with full enjoyment necessary adaptations are required in the activities. Prior to determining appropriate adaptations, it is important to first understand the student's functional vision. The adaptation could be carried out in individuals; the

activities and rules; and the equipment for the recreational activities. Always begin with the smallest amount of adaptation that will ensure desired performance and success (Lieberman, 1996). Following issues need to be considered when making adaptations at different level:

- **The Individual**
  - Involve the individual in determining adaptations
  - How does the person ambulate? (Try to explore)
  - Is the activity age appropriate? (Try to explore)
  - What are the individual's characteristics and preferences? (Try to explore)
  - What are the individual's favourite recreational activities? (Try to explore)
  - Limit or add responsibility
  - Modify demands on the student
- **The Activity**
  - Make the area larger or smaller
  - Make visible boundaries
  - Orient the individual to the activity area
  - Change the rules of the game
  - Increase the tactile cues
  - Change the number of players
  - Decrease time of activity or add rest periods
  - Slow the pace
- **Playing Object**
  - Make the object bigger or smaller
  - Make it softer or harder as per need
  - Make it audible or bright as per need
  - Change the texture of the object
  - Make the object heavier or lighter as per need
  - Increase the size of the target (like Basket of Basketball)

- **Other Considerations**
  - What to make the student more successful? (Try to explore)
  - Will the individual achieve success with minor adaptations? (Try to explore)
  - How can you add a cognitive component to the game? (Try to explore)
  - How can you ensure peers or siblings will also enjoy the activity? (Try to explore)

The instruction of recreation skills should be planned and deliberately taught. Often students who are visually impaired do not experience the same opportunities for recreation that students with no vision loss have in the early years. Recreational and leisure activities can provide an avenue for the development of motor skills, social skills, language skills, and fitness. It is important to expose the students to as many age-appropriate recreational activities as possible. This will best prepare the student for future inclusion and independence.

There must be the inclusion of students with visual impairment in group activities. It should make sure that students play and talk with classmates rather than sit on the sidelines. During games, they should be allowed to buddy-up with other partner (preJerably, a sighted partner). The visually impaired student should be able to participate in most recreational activities except for those that require good visual acuity. A student with a disability has an equal right to membership of the same group as all other students (NCF, 2006).

5.4.1 Physical Education

In institutionalized school education, generally the main goal has been developing childrens' cognitive capacity in the sense of learning knowledge in academic disciplines. Physical education as part of education provides the opportunity for all children to learn about physical movement and engage in physical activity. Physical activity has also been associated with psychological benefits

in students by improving their control over symptoms of anxiety and depression. Similarly, participation in physical activity can assist in the social developing of students by providing opportunities for self-expression, building self- confidence, social interaction and integration. It has also been suggested that physically active young people more readily adopt healthy behaviours and demonstrate higher academic performance at school (WHO, 2008).

Students who are blind or visually impaired also need to experience physical activity. The visually impaired student with additional disabilities should experience a programme designed to improve to improve their fitness levels by participating in various games, activities and exercises. A regular physical activity programme will improve fitness and give the student with visual impairment confidence to move through space without instructions. It can also develop motor skills needed for daily living and mobility (Letcher, 2006).

5.4.2 Yoga

You might be aware with the term Yoga. Now, we will discuss the ancient Indian exercise system 'Yoga' and its implications for children with visual impairment. The word "Yoga" is derived from the Sanskrit root word 'yuj' which means 'to unite'. According to Yogic scriptures, the practice of Yoga leads to the union of individual consciousness with universal consciousness. It is now established as an art and science for healthy living. Yoga emphasizes stretching muscles and working to increase each individual's range of motion. Yoga is essentially a spiritual discipline based on an extremely subtle science which focuses on bringing harmony between mind and body. It also refers to an inner science comprising a variety of methods through which human beings can achieve union between the body and mind to attain self-realisation. The aim of Yoga practice is to overcome all kinds of sufferings that lead to a sense of freedom in every walk of life with holistic health, happiness and harmony (Ministry of Ayush, 2015).

Yoga for Children with Visual Impairment

Yoga is uniquely appropriate for people with visual impairment as it requires no or very less equipment. Yoga emphasizes stretching muscles and very useful to increase range

of motion in children with visual impairment. After some postures and stretches are learned, the children with visual impairment can work alone at home or continue with a class. Yoga may have a positive long-term impact on their life and living.

Yoga improves the body posture and body awareness of children with visual impairment. It also increases body strength, flexibility and balance as well as confidence. Old habits of movement (mannerism) may also change by improved body awareness. As it has been discussed earlier that Yoga not only works for body but it also enhances body-mind unity. Concentration on the breath and movements is a concrete experience in mental focus. Hence, it induces ability to understand the self in a better way.

Teachers should make a conscious effort to create a supportive approach with each individual student to learn yoga. There should be no competition or comparison between class members. In order to teach yoga successfully to people with visual impairment, the usual teaching methods is to be without depending on strictly visual demonstrations.

5.5 Adaptation of Games and Sports

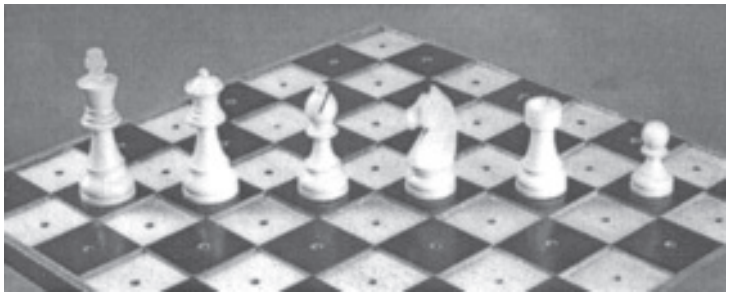
You have found that the adaptation in games, sports and other recreational activities are important. We can discuss adaptation under two groups 1) Indoor Games and 2) Outdoor Games.

5.5.1 Indoor Games for Children with Visual Impairment

There are several indoor games available for Children with Visual Impairment including Chess, Playing Cards, Musical Toys and Computer Games etc.

a. Chess

Chess is a game of mind. It is about boosting the self-esteem and the confidence of the persons with the visual impairment. Chess is available with few physical modifications in the chessboard and pieces. All the black squares are raised (about 3-4 mm) above as comparison to the white squares. Each of the chess pieces has a downward projection at the base to fit into the squares



on the Board having a hole in the centre of each square. All the black pieces have a pin fixed on their heads. The touch of the pin on the pieces helps the player distinguishing a white piece from a black one. The player is therefore able to play chess with having a clear picture in his mind of the position on the Board.

b. Playing Cards

Playing cards is a very popular indoor game across the world. Playing cards can be enjoyed by persons with visual impairment with minor adaptation. The specific code could be created in Braille at left upper corner of each card. Playing cards can be enjoyed with similar intensity as by any other person.

c. Computer Games

There are several computer games which can be enjoyed by the children with visual impairment with the help of screen readers. Many learning recreational tools facilitating leaning with fun are also available for these children.

5.5.2 Outdoor Games for Children with Visual Impairment

You can also find several games available for Children with Visual Impairment including Cricket, Gymnastics, Martial Arts, Running and Tug-of-war etc.

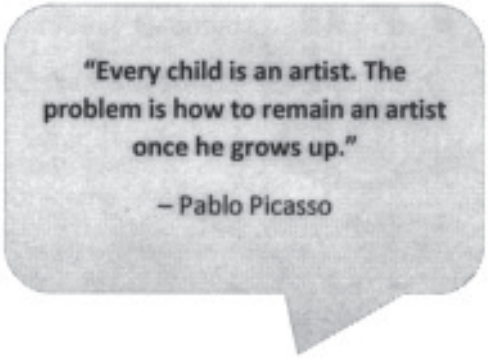
a. Cricket

Cricket in India is very popular and visually impaired in this country are no exception. The visually impaired are equally passionate about cricket. Blind Cricket is a version of the sport of cricket adapted for blind and partially sighted players. The sport that is being played since the 1920s. The rules of blind cricket are based on the standard laws of cricket with some essential modifications. In terms of playing equipment, the major adaptation is the ball. National Institute for the Visually Handicapped (NIVH), Dehradun, developed the audio ball that is now accepted as the international standard. This ball is made of hard plastic with ball bearings inside. The stumps are made of hollow steel pipes welded into one set, to enable totally blind players to touch it in order to correctly align himself when batting or bowling also to produce a sound when struck by a ball.

(Picture Source: World Blind Cricket Council)

5.6 Creative Arts for the Children with Visual Impairment

Art is important for children especially during their early development. Research shows that art activities develop brain ,capacity in early childhood. As children progress into elementary school and beyond, art continues to provide opportunities for brain development, mastery, self-esteem and creativity. Creativity is expressing one's own idea, trying new things, and experimenting with changing materials. The best way to develop creativity is to provide a variety of materials, and give children time to create on their own.



Art activities for children introduce them to new tools and materials, and possible ways to use them. People tend to think that creating art is a purely visual process. Whereas, blind or visually impaired children take part in art class on equal terms with their sighted classmates.

Children express how they feel and think about the world through their art, which gives them a way to express the feelings and ideas that they don't have the words to talk about. Art helps children to develop a sense of their own individuality, a sense of self-respect, and an appreciation for others' work.

As children draw, paint, and make collages, they are learning about the world (colour, shape and size of objects). When they use paints, glue, and markers, children are planning,

experimenting, and problem solving. As children mix paint, they learn to understand cause and effect. Art gives children chances to make decisions, and to learn from the experience of making choices about their art work (Mincemoyer, 2016).

5.7 Agencies/Organizations promoting Sports, Culture and Recreation

There are several organisations across the word working for betterment of sports facilities for persons with disabilities. Here you will find some major organisations and agencies working for promotion of sports and recreational activities among persons with visual impairment.

5.7.1 Indian Blind Sports Association

Indian Blind Sports Association (IBSA) is the largest national level sports body devoted to the promotion of sports among the visually challenged in the country. The Association was established in April 1986 through the initiative of the Blind Relief Association, Delhi (BRA). The Association is recognized by the Indian Olympic Association and affiliated to the International Blind Sports Federation and the Paralympic Committee of India. Indian Blind Sports Association has been organizing National Sports Meets for the Blind once every two years. These National Sports Meets, which include athletic events like races, long jump, javelin and discus throws, shot put, swimming along with indoor game event of chess.

5.7.2 Chess Federation of India

The All India Chess Federation (AICF) is central administrative body for the game of chess in India. Founded in 1951, the federation is affiliated to FederationInternationale des Echecs (FIDE), the world body for chess. Its current headquarters is in Chennai. The All India Chess Federation for the Blind (AICFB) is the national body for the game of Chess among visually impaired in India. AICFB is also affiliated to All India Chess Federation (AICF) which is recognized by Government of India. The All India Chess Federation for the , Blind (AICFB) was established in 1997 with the objective of promoting the game of chess among the visually impaired all over the country. The AICFB is affiliated to the International Braille Chess Association (IBCA).

5.7.3 Paralympic Committee of India

The Paralympic Games is a major international multi-sport event, involving athletes with a range of physical disabilities and intellectual impairment. This includes athletes with mobility disabilities, amputations, blindness, and Cerebral Palsy. All Paralympic Games are governed by the International Paralympic Committee (IPC).

The International Paralympic Committee (IPC) is the global governing body of the Paralympic Movement. Its purpose' is to organise the summer and winter Paralympic Games and act as the International Federation for nine sports, supervising and coordinating World Championships and other competitions. It was founded on 22 September 1989 as a non-profit organisation, it is based in Bonn, Germany and aims to develop sports opportunities for all people with an impairment from the beginner to elite level.

Paralympic Committee of India (PCI) is the body which is responsible for selecting athletes to represent India at the Paralympic Games and other international athletic meets and for managing the Indian teams at the events. The organisation was founded in 1992 as the Physically Handicapped Sports Federation of India.

5.7.4 Abilympics

Abilympic are vocational skill competitions for persons with disabilities to enable them to showcase and enhance their talent. Abilympic empower the contestants and help create public awareness about their abilities. The title "Abilympics" was coined from the phrase "Olympics of Abilities." The first international abilympic was held in Tokyo in 1981 to International Abilympic Federation commemorate the United Nations' International Year of Disabled Persons. During this second international abilympic at Colombia, it was proposed to establish an international organization in order to promote the international abilympic and to hold it on a regular basis. Hence, the International Abilympic Federation (IAF) came into existence during the third international abilympic held in Hong Kong. Since then, the international abilympichas been held in Perth, Australia (1995), Prague, Czech Republic (2000),

Delhi (2003), Shizuoka, Japan (2007), Seoul, Korea (2011) and Bordeaux, France (2016).

5.7.5 World Blind Cricket

World Blind Cricket Council is an administration of blind cricket to manage cricket for persons with visual impairment at international level. The WBC was established in September 1996 WM (when a meeting was held in Delhi to promote and control the blind cricket globally. George Abraham from India was the founding chairman of WBC.

5.8 Let us sum up

Curriculum refers to the all lessons, academic content taught, other activities in a school or in a specific course or programme. The activities pertaining to the school curriculum may be referred to as curricular activities. Curricular activities include all activities of classroom interaction for improving knowledge, physical education for fitness and recreational activities for harmonious integrity of mental and physical energy of the children. The children with visual impairment should have access to the regular core curriculum for which they need to learn an expanded core curriculum, which are unique to visual impairment. Essential life skills including social interaction, independent living, career education, communication modes and recreational activities are key components of the expanded core curriculum. Recreational activities are one of the important aspecyts of curricular activities for students with visual impairment. In order to make the programme accessible to students, there are adaptations and specialized equipment.

Prior to determining appropriate adaptations, it is important to first understand the student's functional vision. The adaptation could be bring out in three domains first in the individual and second in the game rules or activities and third in the playing equipment. Physical education and yoga as part of education provides the opportunity for all children to learn about physical movement and engage in physical activity. Yoga is a spiritual discipline based on an extremely subtle science which focuses on bringing harmony between mind and body. Yoga is uniquely appropriate for people with visual impairment as it requires no or very less equipment. Yoga improves the body posture and body awareness of children with visual impairment. It also increases body strength, flexibility and balance as well as confidence.

There are several indoor games (including Chess, Playing Cards, Musical Toys, and Computer Games etc.) and outdoor games (including Cricket, Gymnastics, Martial Arts, Running and Tug-of-war etc.) available for Children with Visual Impairment. Several organisations across the world are working for promotion of sports and recreational

activities among persons with visual impairment. Indian Blind Sports Association (lBSA) is the largest national level sports body devoted to the promotion of sports among the visually challenged in the country. The All India Chess Federation for the Blind (AICFB) is the national body for the game of Chess among visually impaired in India. Whereas, World Blind Cricket Council is an organisation of blind cricket to manage cricket at international level.

5.9 Check your Progress

5.9.1 Match the table:

Organization	Place
World Blind Cricket Council	Chennai
International Paralympic Committee (IPC)	Delhi
All India Chess Federation (AICF)	Germany
Indian Blind Sports Association (IBSA)	UK

5.9.2 Choose correct Answer:

i) Cricket ball for visually impaired is

   a. Red and Solid
   b. Black and Hollow
   c. White & with Sound
   d. Black and with Sound

ii) Chess is a game related with

   a. Hearing ability
   b. Kinesthetic skill development
   c. Speaking
   d. Mental orientation

5.9.3 Answer the questions:

i) What are the adaptations made in cricket for visually impaired?

ii) Enlist various indoor and outdoor games for children with visual impairment with their advantages and limitations.

iii) How could Yoga be beneficial for children with visual impairment?

iv) Give detailed description about role of organization or institutions in promotion of recreational facilities for children with visual impairment.

5.9.4 Let's Explore

i) How is physical education different from yoga?

ii) What is difference between Recreation and Sports?

iii) Plan to adapt a new game for children with visual impairment.

iv) Make a plan for teaching yoga to children with visual impairment and execute it in small group.

5.10 References

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