UNIT 6 ADAPTATION IN CURRICULUM AND EXPANDED CORE CURRICULUM

Structure

6.1 Introduction

6.2 Objectives

6.3 Concept and Need

6.4 Principles of Adaptation

6.5 Adaptation in Curriculum and Expanded Core Curriculum for Children with Sensory Disabilities

- 6.5.1 Visual Impairment
- 6.5.2 Hearing Impairment

6.6 Adaptation in Curriculum for Children with Intellectual Disabilities

- 6.6.1 Specific Learning Disabilities
- 6.6.2 Autism Spectrum Disorder

6.7 Adaptation in Curriculum for Children with Loco Motor, Cerebral Palsy and Other Disabling Conditions

6.8 Adaptation in Curriculum for Children with Multiple Disabilities

6.9 Let Us Sum Up

6.10 Unit End Exercises

6.11 Answers to Check Your Progress

6.12 References and Suggested Readings

6.1 INTRODUCTION

The phenomenal increase in the number of children with special needs in schools has raised concern for rethinking and analysis. It calls for expansion of services to meet the needs of children with special needs to help them develop optimally, cognitively and socially. The National Curriculum Framework on School Education (NCF - 2005) recommends making curriculum flexible and appropriate to accommodate the diversity of school children including those with disabilities in both cognitive and non-cognitive areas. The actions teachers take to adapt curriculum to address the child's needs is important in creating an inclusive classroom. This unit will focus on various adaptations in curriculum and expanded core curriculum for children with special needs studying in the inclusive set-up.

6.2 OBJECTIVES

After going through this unit, you will be able to:

- demonstrate understanding of the concept of adaptation in curriculum and expanded core curriculum;
- describe the need for adaptation in curriculum and expanded core curriculum; and
- explain the curricular and expanded core curricular adaptations for children with special needs in the inclusive classroom.

6.3 CONCEPT AND NEED

The adaptation in curriculum has been defined as the concept of adjusting in educational programmes to accommodate diversity in student learning. Rather than being viewed as an "add-on", the curriculum adaptation must be viewed as an essential ingredient that spreads throughout the curriculum and instruction in all general, modified and alternate education programmes.

The focus should be on meeting individual needs and maximizing student learning. In some instances, a student's needs may best be met through individualized instruction where the teacher works one to one with the student; however, in other situations, some form of group instruction may be more appropriate for the student.

The adaptation in curriculum addresses the needs of a variety of students. Because, each teacher, each learner and the dynamics of each classroom is unique, the adaptations required may vary from student to student. For example, adaptations may be in the form of a modification of content to compensate for an informational deficit or may be in the form of an individual or small group enrichment activity to nurture demonstrated knowledge and interest in a topic.

A student may be able to achieve some objectives through general instructional approaches, while requiring adaptation to curriculum content, instructional practices, and/ or the learning environment to reach other objectives. Another student may require some form of adaptation to achieve objectives in all the content areas. Furthermore, the length of time an individual student may require for curricular, instructional, and/or environmental adaptations to learn efficiently may vary from a few lessons to being an integral part of an entire educational programme.

Adaptation therefore influences curricular aim, contents, method and evaluation. Adaptation needs to be individualized for students, based upon their needs, their personal learning styles and interests. This allows students to access the general curriculum and other learning materials and activities and to demonstrate what they have learnt. As they experience success in the classroom, motivation and learning increases, and overall student outcomes improve.

The term Expanded Core Curriculum (ECC) is defined as concepts and skills that often require specialized instruction for students with special needs to compensate for decreased opportunities to learn incidentally by observing others. 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 special needs to access their education and make their own choices throughout life. 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.

6.4 PRINCIPLES OF ADAPTATION

1. The adaptive curriculum is designed for all students in all educational settings.

2. The adaptive curriculum accepts students diversity, as reflected in individual differences, to be a key consideration as teacher's plan.

    - It is acknowledged that students come to the classroom with significant differences in cultural backgrounds, aptitudes, interests, abilities and achievement levels which must be accommodated through adaptation to curriculum content, instructional strategies, and the learning environment if all are to benefit equitably from the approved programmes.

3. The adaptive curriculum assumes that there is an interrelationship among the variables associated with adaptation.

    - Adaptation to accommodate learning styles necessitate adjustments to instructional approaches and assessment practices.
    - Adaptation to evaluation practices may be necessitated by changes to the amount, type, and time frame for students to explore the curriculum.
    - Adaptation in curriculum, instruction, and assessment practices may require changes in resource requirements, support personnel, and classroom organization.

4. The adaptive curriculum requires the teacher to attend the learner, the learning task, and the learning environment in optimizing learning opportunities for students.

    - It is understood that adaptation considers the student's developmental level, the specific needs, the interests, and the learning styles, the demands of the learning task, the significant aspects of learning environment, and the knowledge, skills, and abilities of the teacher.

5. The adaptive curriculum recognizes that students approach learning in multiple ways.

    - Teachers should know about differences in learning styles and regard adaptations designed to accommodate differences as an expected part of their teaching responsibilities.

6. The adaptive curriculum recognizes the importance of careful collaborative preplanning for instruction.

    - Preplanning, which may involve consultation with students, parents/ guardians, and other professionals, is fundamental to structuring adaptations to maximize students' potential as independent learners.

7. The adaptive curriculum requires that assessment practices align with the curricular and instructional adaptation provided for the student.

    - Assessment practices must be adapted to be consistent with curricular and instructional adaptations.
    - It is expected that learners will be familiar with current research and the best practices for diagnosis of student needs, assessment of student learning, and evaluation of all aspects of student development.

6.5 ADAPTATION IN CURRICULUM AND EXPANDED CORE CURRICULUM FOR CHILDREN WITH SENSORY DISABILITIES

Adaptations are needed to make it more suitable for students with special needs in the inclusive classroom. Three key areas of consideration are: 1) how the curriculum is presented 2) how students are required to respond and 3) how their efforts are evaluated. In the following sub sections, we will discuss these with regard to various disabilities in detail.

6.5.1 Visual Impairment

These children can be categorized into two main types i.e., blind and children with low vision. For those who are blind, Braille or recorded tapes must be the medium of instruction and for children with low vision, print with magnification. No significant modification is required in the curricular content, but special equipment is needed for teaching Braille, mathematics, science and social studies. It will be necessary for a teacher to adapt his/ her teaching strategies to suit the needs of a student who is blind and one who has low vision. The following points should be borne in mind.

- Show models that can be comprehended by touch instead of illustrations.
- Say it, orally, whatever you write on the black board.
- Assignments should be taken either on Braille or on a tape.
- Orient the child fully with the classroom and school building.
- It will be preferable to associate with a peer who will take responsibility of giving the blind student lecture notes, taking him/her out when necessary and/or facilitate his/ her involvement in play and other suitable occasions.
- Provide them with the facility to magnify the text (optical devices such as magnifiers/large font size on computer) provide magnified texts, contrasts in presentation, good lighting and more time for doing assignment.
- Adaptation of games, For example, chess, cards, cricket and badminton.
- Encourage the child to be mobile within the campus. Fix self-illuminating contrast strips on the staircase to give depth perception which children with low vision seem to lack.
- Give the right environment, equipment and encouragement for a blind child to perform.

- Encourage all children to interact freely in the classroom.
- Encourage students with blindness and low vision to join in all competitions such as essay writing, debating, storytelling, recitation, music and other activities that the sighted children participate in.

Specific strategies involve the use of skills such as plus curricular activities, Braille, reading, writing skills, orientation and monitoring and spatial equipment. These have been briefly explained below.

Plus Curricular Activities

Plus curricular activities are meant for providing compensatory experiences to visually impaired children in inclusive education programmes. Plus curriculum means development of skills specific to blindness such as Braille reading, Braille writing, orientation and mobility, daily living skills, sensory training and use of mathematical devices such as Taylor's frame and abacus.

Braille

Braille is a medium of written communication of that part of population that cannot communicate through usual print because of their visual impairment. Every teacher should be familiar with open English Braille and Bharati Braille as applicable to regional languages. Students with Visual impairment should be taught how to read and write Indian Braille.

Taylor Arithmetic Frame

Taylor frame has aluminum frame with star shaped holes with eight angles, thus allowing the double-ended metal types to be placed in various positions according to a set system. This frame is suitable for teaching arithmetic to children with visual impairement.

Abacus

A simple instrument for performing rapid arithmetical calculations. Please refer Unit 7 on aids and appliances for detailed description of all the relevant aids and appliances.

The Expanded Core Curriculum (ECC) is the body of knowledge and skills that are needed by children with visual impairment due to their unique disability-specific needs. Children with visual impairment 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. A brief description for each of these areas of expanded core curriculum is as follows:

Compensatory Skills

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, tactile graphics, object and/or tactile symbols, sign language, and audio materials.

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. Students learn about themselves and their environments, including home, school, and community. Orientation and mobility 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. Orientation and mobility skills enable students to acquire independence to the greatest extent possible, based on their individual needs and abilities.

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. Having appropriate social skills can often mean the difference between social isolation and a fulfilling life as an adult.

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. People with vision typically learn such daily routines through observation, whereas individuals with visual impairment often need systematic instruction and frequent practice in these daily tasks.

Recreation and Leisure Skills

Being unable to observe others reduces awareness of recreation and leisure options. Instruction in recreation and leisure skills will ensure that students with visual impairment 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 will provide students with visual impairment 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.

Assistive Technology

Assistive technology is an umbrella term that includes assistive and adaptive tools as well as instructional services that can enhance communication, access, and learning. It can include electronic equipment such as switches, mobile devices, and portable note takers; 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.

Sensory Efficiency Skills

Sensory efficiency includes instruction in the use of vision, hearing, touch, smell, and taste. Learning to use their senses efficiently, including the use of optical

devices, will enable students with visual impairment to access and participate in activities in school, home, and community environment.

Self-Determination

Self-determination includes choice-making, decision-making, problem solving, personal advocacy, assertiveness, and goal setting. Students with visual impairment 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.

6.5.2 Hearing Impairment

Hearing impairment is a great barrier to the normal development of language; the child with such impairment is at a severe disadvantage in virtually all aspects of language development. Language being a very powerful tool of learning, its importance in academic achievement can never be overemphasized. A considerable number of educators of the deaf individuals believe that many of the problems of people who are hearing-impaired related to social and intellectual development are primarily due to their deficiencies in language. Therefore, to help those with hearing impairment develop optimally in all aspects of learning, i.e. social, emotional and cognitive, it is imperative to ensure early identification and intervention early in life.

For inclusion of students with hearing impairment in general classroom the following points should be kept in mind.

1. The distance between the child with hearing impairment and teacher should not be more than three to four feet.
2. The teacher should avoid moving too much while speaking so that the child can see his/her face.
3. The teacher's face should always be in sufficient light to enable face and lip reading by the child.
4. The school can make efforts to reduce unnecessary noise by carpeting floors, draping windows and covering walls with materials that absorb noise; if this is not possible, rubber pegs should be used under the legs of the tables and chairs. All electrical equipment in the classroom such as fans and tube lights should work without making any noise as such noise can interfere with the child in using the residual hearing that s/he might have.
5. When answering or asking any question, a student should be asked to come in front so that the hearing-impaired child can also participate and learn.
6. For hearing impaired children, seating arrangement should be carefully planned to keep in view the teacher's visibility and audibility of his/ her speech.
    - Child should be seated in front to allow accurate reading of teacher's facial expressions to understand better.
    - The learner's chair or desk can be turned properly so that he/she can see the faces of his/her classmates.

- He should be seated in a place where the reflections of light do not distract him from reading the black board writing.
- The child should be seated away from windows, doors to reduce the noise that may interfere in using his hearing maximally. He/ she should be seated in a way that his/ her better ear is towards the teacher.
- The classroom should be preferably located in the inner area of the school, away from all sources of noise due to movement such as the office, auditorium, road traffic etc.
- It should also not be located near the boundary of the school where the traffic noises are maximal.
- If possible, there should be several trees and plants outside the classroom to absorb noise.

Adaptive Teaching

Inclusion of a student with hearing impairment might require extra effort to teach with the help of special techniques. These techniques include simple ways such as learning through storytelling, direct activities, visit to educational places, description through pictures and so on.

While teaching any subject, use objects which are easily available. For instance, in mathematics, use material such as used match sticks for teaching addition and subtraction. The teaching strategies used will also depend upon whether the hearing-impaired child has acquired language or not.

Methods of Communication

Oral/Auditory-oral method

In this method, the child is taught to make maximum use of his/ her hearing through amplification (hearing aids). It also stresses the use of speech reading to aid the child's communication. Use of any form of manual communication (sign language) is not encouraged although natural gestures may be used.

Auditory verbal uni- sensory method

This method emphasizes maximum use of auditory skills. The child is taught to develop listening skills through one-on -one practice that focuses attention on use of remaining hearing with the aid of amplification. In this method, no manual communication is used and the child is discouraged from relying on visual cues. This method is very useful with children with cochlear implant. The success in inclusive education through this method is very high.

Sign language

Sign language is a manual language which is distinct from the spoken language for communication and one uses signs/ gestures/ actions

Total communication

In this method, the child is exposed to a formal sign-language system, finger spelling (manual alphabet), natural gestures, speech reading, body language, oral speech and use of amplification. The idea is to communicate and teach vocabulary and language in any manner that works.

While communicating with the hearing-impaired child, the following rules should be kept in mind:

- Sentence should be simple and short
- The child should get first-hand experience
- More visual clues should be used
- Use of proper hearing aid is important
- The face of the person who speaks should be clearly visible to the child who is deaf to enable speech reading.

The hearing-impaired child should be given opportunities to participate in house hold activities so that s/he knows what and how to eat, take care of self and daily needs and so on. Gradually the child will learn to communicate with the environment around him/her.

Children with hearing impairment need Expanded Core Curriculum (ECC) in addition to the core academic curriculum of general education. The ECC for students who are deaf or hard of hearing includes eight content areas: Audiology, Career Education, Communication, Family Education, Functional Skills for Educational Success, Self-Determination and Advocacy, Social-Emotional Skills, and Technology. A brief description of each of these areas is as follows:

Audiology: Understanding Hearing Loss, Amplification Management, and Environmental Management.

Career education: Career Exploration and Planning, Occupational Skills Training, Soft Skills Training, Job Seeking Skills and Money Management. For the youth who are deaf they must also learn critical skills in arranging accommodations at the work site, learn how to use an interpreter in an interview and work setting. Often youth who have had interpreters throughout their education do not realize that in the adult world of work, an interpreter is used quite differently and must be planned for in advance.

Communication: Auditory Skills Development, Sign Language Development, Speech Development, Receptive Communication, and Expressive Communication.

Family Education: Understanding Hearing Loss, Amplification, Family and Child Interactions, Communication Strategies, Education/Transition, and Resources and Technology.

Functional Skills for Educational Success includes: Concept Development, Comprehension, and Study and Organization.

Self Determination and Advocacy: Self-Determination, Community Advocacy, Community Resources and Supports, Cultural Awareness, and Using Interpreters and Transliterators.

Social-Emotional Skills: Self-Awareness (Personal Qualities), Self-Management, Support Networks, Personal Responsibility, Decision Making, Social Awareness, Social Interaction Including Conversation Skills, and Conflict Resolution.

Technology: Skills Necessary to Access Technology.

Peer support is especially important for the hearing impaired child. When the child meets other hearing impaired children and realizes other people face similar challenges and manage fine, regardless of language or level of hearing, it supports identity development and increases confidence. Organizations offer a variety of peer activities for children and youth – activities for small children are aimed at the whole family, but school-age children and older can go to camps and weekend events. Peer support plays an important role in rehabilitation and orientation courses, too.

Activity 1

1. Prepare plus curriculum for a visually impaired child in an inclusive classroom.
2. List out adaptation techniques in teaching a child with hearing impairment
3. Plan expanded core curriculum for hard of hearing child in an inclusive classroom

Check Your Progress I

Notes : a) Write your answers in the space given below.

b) Compare your answers with those given at the end of the unit.

1) What do you mean by adaptation in curriculum?

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2) What do you mean by expanded core curriculum?

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3) List the areas of expanded core curriculum?

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6.5 ADAPTATION IN CURRICULUM FOR CHILDREN WITH INTELLECTUAL DISABILITIES

School is an institution where student is gradually shaped into a person and develops more of those qualities and capabilities which enhance his/ her competence. Students with intellectual disability (earlier known as mental retardation) take longer to learn a concept in comparison to others. Therefore, the content should be adapted. The focus should be his learning and using the learnt concepts in daily living.

After selection of the content, how to teach, that is, the method of teaching should be decided. Students with Intellectual disability learn better when there are concrete experiences, rather than just lectures. Providing hands-on experiences, along with other children helps. After selection of curricular content, decide: 1) what can be taught directly 2) what needs adaptation. Adaptation refers to simplifying, using additional teaching learning materials (TLM's) physically positioning the student and planning with family and peers for the student's optimum learning. We should pay extra attention to the following:

Position of the teacher

While teaching children with intellectual disabilities, the teacher should pay proper attention to each child. It is advised that the child should be seated closer to the teacher so that the teacher can supervise his/ her work and support the child.

Teaching Strategies

The usual guidelines for facilitating learning holds good for children with intellectual disabilities as well; these are:

Simple to Complex

Start with easier and simpler tasks and then proceed to teach more difficult parts. For example, while teaching sentences of English, simple sentences should be taught first and complex type of sentences may be taught afterwards.

1. I like chocolate cake.
2. I don't know how to bake and so I buy the chocolate cake.

The first sentence is an example of a simple sentence. The second sentence is a compound sentence.

Concrete to Abstract

To teach about objects, wherever possible, it is ideal to first show and explain with real object, (three dimensional) then shift to the pictorial form of the same object (two dimensional) and finally their symbolic description, that is in oral /written form. For example, if we should teach 2+2=4, first teach with the help of real objects, then with the help of pictorial form of addition and finally the sum in paper as well as verbal description.

Whole to part

It represents a practical methodology for designing learning programs. It is useful for the overall design of learning programs of any length- total courses, as well as, for short learning experiences. The Whole Part-Whole (WPW) learning model offers a helpful framework for developing training and instruction. For example,

a coach might teach the triple jump by first demonstrating the "whole" action (hop, step, and jump in sequence) and then have the athlete practice each of the components or "parts" of the event. Finally, the coach would again demonstrate the complete triple jump and have the athlete combine the three components and practice the entire sequence.

Known to Unknown

Every learning should move from known concepts to unknown concepts. If the child needs to learn what rain is, he must first know what water is. Water is seen by the child every day. Rain is seasonal. Hence the teacher, ideally, should talk about water first and then lead the children to the concept of rain.

Generalization

A generalization is general statement that applies to many situations or facts. Once a task/concept is learnt in one specific context, the ability to carry out/ use the concept in other situations is called the ability to generalise. For example, if a child has learnt the general process of tying a knot- he/ she should be able to tie knots in varied situations such as in shoe laces, pyjamas, bows in ribbons and so on.

Sequential Teaching

Whatever we teach our students, it should be taught in a sequence that facilitates learning. While teaching students with intellectual disability, we need to follow a systematic approach moving in a sequence as discussed above for optimum learning in them.

Curricular Adaptation

Language

- Long lessons/stories can be divided into smaller parts with a meaningful beginning and ending.
- Poems can be taught through actions and repetitions.
- Students need more real experiences and activities to learn a concept. For example, the concept of 'turning' can be taught by doing simple activities like using the fan regulator, tap, gas-stove knob and so on.
- Unfamiliar words can be taught using a visual/picture dictionary.
- While using picture cards, select colours that are distinct as some children may have difficulty in differentiating minor differences in shades of colours. Colourful pictures having natural colours of the objects depicted are the best.

Mathematics

- For teaching place value, initially, use scale with unit place numbers having blocks in one colour and another colour at ten's place and so on. Fade colour coding once the student learns the concept.
- Fractions can be taught through activities such as paper folding.
- Concepts of measurement (tall, short), capacity/volume (full, empty), weight (heavy, light), shapes (circle, triangle) etc., can be understood better through concrete things/ objects, flash cards.

- Use material like clay and play dough to make different shapes. As children with intellectual disability take longer to learn a concept, instead of giving all shapes together, expose them to one shape at a time.

Environmental Science

- Group activities will facilitate active participation and experiential learning. Activity based learning facilitates understanding characteristics of what is around, for example, different houses.
- For teaching 'changing times', the entire content can be divided into parts concept wise. Then narration using real objects can be used as a technique for better understanding.
- Use sound effects to give a close-to –real experience. For example, the concept of rain can be demonstrated by playing recorded sound effects of thunder and rainfall with associated sounds of animals and insects.
- Picture/flash cards can be used to introduce the objects that are not available, such as, non-regional plants.

6.6.1 Specific Learning Disabilities

Students with specific learning disabilities have a break down in their psychological processes that prevent them from learning academic topics effectively. It manifests as difficulties in listening, thinking, reading, writing, spelling and doing mathematical calculations. Some of the students with specific learning disabilities demonstrate some degree of attention deficits, that is, paying attention to the task till its completion is very challenging for them. Some may exhibit difficulty in perception and understanding and some in recalling what is learnt from their memory. Therefore,

- Make sure students have understood the instruction before making them do a task.
- Give a student only that much work that he can manage without great difficulty.
- Give positive reinforcement every time the child is "on the task".
- Use quiet corners for seat work.

Reading Skills

Reading is a process where by one accesses verbal information through the medium of presented symbols. To read efficiently one needs a sound understanding of the symbolic nature of the language i.e. its sound system to form words, sentences and paragraphs. Problems in reading arise out of a poor perceptual maturity or poor language skills. The following measures are suggested to deal with such problems.

Providing learners with out line of the subject matter they are about to read. This helps them anticipate what to look for in their reading i.e. important points.

- Teaching key vocabulary in content can assist them in comprehending and scanning more difficult reading materials. These words can be taught using sight word techniques such as pairing the word with corresponding picture.

- Peer tape recorded chapters and peer tutors can assist learners in studying and completing assignments.
- Teaching good study and note taking skills. Teaching the survey, question, read, recite, and review approach. Basically learners are taught to survey the material briefly, locating the main points. Then, convert the main points to question that may help to increase their comprehension. They read until they can answer each question, recite the answers, and finally review after all questions have been answered.
- Memory aids are important set of skills for weak learners. Some aids such as poetic devices, linking techniques- linking words to form a mental image and location techniques- visually walking through the exercise.
- Many students with learning disabilities may not perform well on content based tests because of their deficits in reading. Teachers could assist in developing alternate projects that assess learner's knowledge, yet do not rely solely on reading ability.

Specific Strategies for Reading

These strategies involve the use of methods which can help correct the student's spoken or written language and word identification. In other words, these methods are meant to raise the student's level of reading to that of other students in the class. A few of the remedial strategies are given below:

Drill Card Method

This method uses multi-sensory approach. The sound of each letter is taught through this approach. Letters having one sound can be presented on the drill or flash cards. A book of printed letters can also be shown to the student. This will help the student note resemblance between the printed and written word. This technique involves following procedure:

- A flash card showing one letter only is shown to the student
- The teacher then makes the sound represented by the letter
- The teacher then writes the letter for the student gradually, explaining how it is formed. The student traces the letter and copies it. The student then learns and writes the letter without looking at the letter written by the teacher or the printed letter
- After the student has learnt about 10 letters in this way, he/ she is now ready to combine these letters to form words.
- When the teacher speaks a letter, the student repeats the word, names the letter, writes the letter as he speaks it and reads the word he has formed.

Joint Oral Learning Method

This method is very effective with students with severe reading difficulties. It aims to help the student attain fluent reading automatically. This method comprises joint oral learning at a rapid pace by both the teacher and the student. It is generally believed that a student can learn better by hearing his own voice as well as someone else's voice jointly reading the same material. In this method,

the student sits in front of the teacher so that the teacher's voice while reading is heard by the student. Moreover, the student can also see how the teacher reads the text. This method requires no special preparation and both the student and the teacher can read as many as they want to. The steps in this method are listed below:

- The teacher first reads loudly and with normal speed
- The student is encouraged to read along with the teacher without worrying about the mistakes
- The teacher then slides the finger to locate the words as they read.
- As the student picks up pace, the teacher can lower his/ her voice
- The student can then use his/ her finger to point to the word being read. Thus, the student slowly takes over the reading.

The use of visual aids such as charts and pictures with these children is of prime importance. A straight forward way to teach reading to the child with the help of a picture would be:

- Project a picture on the board.
- Label objects in the picture.
- Ask the child to read the words.
- The child may also be asked to narrate a story regarding the picture,
- Small groups can also be formed in which all children read together. In an inclusive class, all children benefit through such activities.

Writing Skills

Those children with reading problem may also have problem in writing. These could be because of poor visuo motor integration, poor language skills, or poor memory for spelling correctly. Suggested here are activities that foster writing skills and note taking. In some instances, creative writing skills can help these learners become more independent.

- Computers can be of tremendous help to learning disabled children in improving their written expression. Word processing packages can assist learners who previously have found writing too difficult because of severe deficits in hand writing, spelling, punctuation and other skills.
- Providing students with a list of words they can use to form sentences can be a meaningful exercise for those who lack an adequate vocabulary.
- Providing students with incomplete sentences required to finish by them, by supplying the main idea can help them to complete their thoughts. The procedure would be to gradually fade the number of words provided by the teacher.
- For students whose social experiences are limited, organizing groups to share ideas for a story can be a helpful way to generate content. Teams of students can work together to form a story.
- Teaching manuscript writing is easier to master than cursive writing, however it is less versatile. Cursive writing is best suited for students who have

difficulties in blending letters to form words while reading. The best practice may be to match the technique best suited to each student.

- Commercially produced methods for teaching cursive writing may provide teachers with an effective structured programme.
- Reading and spelling are so closely related that they should be emphasized together as much as possible. For example, students can identify words in their readings that they have learnt to spell and write.

Specific Strategies for Writing

Students with writing problems require the use of some special methods which can help improve their writing. Several remedial methods have been designed for students with writing problems. But before teaching writing to a student, it is important to see that these students have developed their readiness skills. In other words, the student should be able to connect dots on the paper; perform hand movements such as up-down, left-right; draw vertical and horizontal lines and different geometric shapes such as circle and line

Cover - Write Method

This multi-sensory method has the following steps:

- The student looks at the word and says it
- The student then writes the word by looking at it, may be twice or thrice
- The student covers the word and writes it from memory
- Checks the spelling himself/ herself

Imitation Method

This method is meant for students with severe writing problems. The steps in this method are as follows:

- The teacher / parent first spells the word and provides the model written form of the word.
- The student imitates the model by spelling the word and writing it
- The student receives immediate positive feedback (praise) if the response is correct
- If the response is incorrect, the student is taught again and the above two steps are repeated.

Math Strategies

Some children with learning disability have problems in learning mathematics. The problems arise because of difficulty in analytical thinking that is needed for doing math. In addition, perceptual or language comprehension deficits, such as reading the numbers correctly, writing them in correct column or performing the right operation can be difficult for them. These are known as difficulty in computation. Some children face difficulty in understanding/ comprehending the problem such as in story sums. These are known as difficulty in mathematical reasoning or difficulty in mathematical application. Some suggested solutions are

- Reduce the number of problems that you assign. Identify the specific difficulty the student has and address it.
- Color code to highlight processing signs for students who are inattentive to change in operational signs on a page.
- Color dots the ones (units) column to remind students where to begin computation.
- Use mnemonics (memory devices) to help in recalling steps. For example, steps of long division can be remembered by dad for divide, mother for multiply, sister for subtract and brother for bring down as this is the sequence to do division.
- Familiarize students with mathematical vocabulary 'all together/total' for addition, 'balance/left over' for subtraction, 'equal distribution' for division and so on.

Structured Lesson Presentations

Students with specific learning disability achieve more when lessons taught to them are clearly presented, well sequenced and well organized. Explanations should be concise and clearly presented with key concepts properly highlighted. The way of presentations should vary according to each student's unique abilities and needs. In other words, the lessons should consider the learning style, preferred channel of learning and the needs of the students.

Activity 2

1. List the functional skills required for daily living
2. Plan a sequential teaching programme for a student with intellectual disability in an inclusive classroom
3. Plan curriculum adaptation for a student having difficulty in reading in an inclusive school

6.6.2 Autism Spectrum Disorder

Autism, currently called Autism Spectrum Disorder (ASD) refers to individuals who have impairment in socialisation; impairment in communication and impairment in flexibility (have restricted interests). Many with ASD have average or above average intelligence while many do have intellectual disability too. If taught right, many of those with average/above average intelligence complete high school education and enter and pursue higher education. It is crucial that the teacher carefully plans the educational programme for them.

For a child with autism an effective curriculum will aim to enhance competency. Also, children with autism may learn when taught using specific methods. A good curriculum should have activities that are age appropriate, reflects the interests of child and family and prepares the child for competence in relevant environments. Predictability in the routine helps them stay calmer and get prepared for the anticipated activities. Children with autism are strong visual learners. They will greatly benefit from the use of visual supports. Structured activities and environments will help them focus on tasks and help in task completion. It would provide predictability and independence. As children with

autism are concrete thinkers it is imperative that they are taught experientially i.e. they learn by doing and hence they need opportunity to use suitable material and equipment. Exposure to real objects and situations will assist learning.

Breaking the tasks into small units, clarity of instruction, repetitions and multisensory learning experiences will increase the learning rate. It is essential to relate the learning to the world around them. They should be encouraged to engage in concept learning experiences to deepen their understanding and be provided with variety and challenges to make learning engaging and interesting. For keeping motivation high, it is essential to keep their interests and preferences in mind. Linking class work to student's interest is a useful strategy. As some children with autism may have difficulties with generalisation, while teaching a skill, it is necessary to expose the child to all possible situations in which a skill can be used. Also, children would benefit if given flexibility in choosing subjects. It is essential to provide language exercises to help them to infer meanings. Specific project work can help set achievable goals and develop language in context.

Curricular Domains

Keeping in mind that the focus for a student with autism needs to be on building a repertoire of skills needed to function productively in society, curricular goals should additionally include:

Critical goals: These include high priority skills and provide the basis for selecting the other goals. These goals have implications throughout the lifespan of children with autism e.g. communication.

Life skills: This is another important domain and includes (a) Social Skills: As difficulties in forming relationships are central to autism, effort must be devoted to design specific strategies for improving social functioning. (b) Self-preservation skills and safety skills: It is imperative to work on the student's ability to recognise and respond to dangerous and life-threatening situations. (c) Daily life skills: Programming in daily life skills is important to teach independence.

Vocational skills: This should begin early as in later years it is a source of pride, self-satisfaction, personal fulfilment and income.

Functional academics: Those who have Intellectual disability and ASD need to have a focus involving functional curriculum. They involve skills needed for everyday living. Academics are functional when they involve skills as knowing coin values, using a calculator to add up purchases, telling time.

Many children with ASD benefit in inclusive classes as it gives them an opportunity to improve their social skills and communication skills in addition to learning academics.

6.7 ADAPTATION IN CURRICULUM FOR CHILDREN WITH LOCO MOTOR DISABILITY, CEREBRAL PALSY AND OTHER DISABLING CONDITIONS

Loco motor disability (a person's inability to execute distinctive activities associated with movement of self and objects resulting from affliction of musculoskeletal or nervous system or both).

Cerebral palsy (CP) is a disorder that causes problems with movement and balance. It results from damage to the brain or mal-development of the developing brain, resulting in varying degrees of physical disability.

The physical disabilities may co-exist with other conditions such as impairment in hearing, vision, language and communication; intellectual disabilities, autism, and/or specific learning disabilities. Some children with cerebral palsy also have epilepsy. Cerebral Palsy is not hereditary, it is not a disease nor is it infectious. It is non-progressive; there is no cure but with early diagnosis and suitable intervention, there is scope for improvement, regardless of the severity of the condition.

Since a child with loco motor impairment does not require special educational techniques the following might prove beneficial. All that is necessary is to remove architectural barriers and ensure that the child has a comfortable seat. If he /she is using a wheel chair the desk should be at such a height to enable the child to reach it without experiencing any kind of discomfort. This also applies to reaching the black board as well. All the materials should be within the reach of the child.

Please remember that considerable number of children with CP tend to have intellectual disability. Such children, in addition to support for positioning themselves and in movements, may need curricular adaptations as seen earlier in the context of children with intellectual disability.

Adaptation of Physical Environment

Classrooms are active environments, and often involve the movement of both teachers and students. The physical structure of the classroom may be changed by the teacher to ensure effective learning. Circular or horse shoe arrangement of furniture is advised for all children. Where there is lack of space for such arrangements, consideration for mobility of children with loco motor impairment and cerebral palsy (using mobility aids) should be observed.

Space for Easy Mobility

Adequate space and facility of accessibility should be made for children using mobility devices e.g. wheel chair, crutches and walkers, as well as those walking with the assistance of other children in the class room, toilets, libraries, canteen and play ground.

The range of reach (forward and side; with or without obstruction) of a child in a wheel chair should be taken into consideration. Different reach heights with hand rails are important for loco motor impaired children for working in library, class room and canteen.

Height of the black/ white board and notice boards should be at an angle, rather than parallel or at right angles to the wall.

Adequate light should be ensured in the classroom benefitting everyone.

Position of the Teacher

Many strategies may be used to enhance learning of Children with Special Needs (CWSN). Emphasis may be given to the pictures of the teacher in the classroom. The teacher should have adequate light (white light is to be preferred to yellow light) above his/ her head. Glare and shadows should not fall on the teacher's

face.

Seating Arrangement

It is important to remember that CWSN need to be positioned appropriately to access all that happens in the class. Sometimes their problems in communicating with others will limit their self- esteem and ability to play and work with others.

Adapted Furniture

In case of children with loco motor impairment, accessibility is the main issue. Sometimes accessibility may be ensured through ramps, lifts, hand rails etc. whereas on some other occasions the accessibility may be in terms of appropriate furniture.

Seating arrangement around the table should be more than 800 mm from the floor and should have knee and leg space. For example, for a child using wheel chair, the table may be mounted in such a way that the wheel chair can get inside and child is able to sit comfortably. Such modified furniture is necessary for the effective functioning of the child.

Positioning of Children with Cerebral Palsy

Very low-cost adaptations can be carried out if the principles that govern poor motor control in children with cerebral palsy are understood.

Whether seating on a floor seat or chair, the following should be kept in mind	a) The trunk (if needed) should be well supported b) Feet should be flat, or during extended periods of immobility the feet should have a splint or support so that they are at 90 degrees to the legs c) If the child has good sitting balance then an ordinary chair or floor can be used.
Positioning of the student	d) To be given a front seat, as a child suffering from cerebral palsy might have vision and speech impairments.

Adaptation in Teaching

The teacher should ascertain whether the child with cerebral palsy is inclined to be a visual learner, an auditory learner or a tactile learner for designing proper instructional strategies.

There are no such specific strategies as far as students with loco motor impairment are concerned. They may need adaptation to compensate for hand function/ mobility. The Teaching Learning Materials should be carefully designed keeping in mind the specific need. The teaching techniques mentioned below provide ample opportunities for such children to interact effectively in the learning process. Other activities such as drama, skit, role play and other performing arts may also provide opportunities for effective inclusion.

Facilitate learning by involving children with special needs in groups. In a class consisting of children with special needs, group learning can be planned by including a child with disability in a group consisting of non-disabled children. This kind of activity not only develops academic skills but also influences natural inclusion of the child.

Teacher Assisted Peer Group Learning

Peer group learning is considered to contribute to effective learning in the case of non-disabled children and it is not less so in the case of children with special needs. This requires careful planning by the teacher so that all children are involved based on their ability levels. Peer tutoring and cooperative learning situations are the best in promoting peer interaction in learning environments.

Learning through Field Trips and Hands on Experience

A range and variety of experiences should be provided to children with CP by alternative modes of reaching them with information. Field trips are example of alternative experiences which contribute to concept development.

Multisensory Approach in Learning

Multisensory approaches promote learning significantly in children who experience learning problems. Organise the learning experience which would require all senses to learn wherever possible as these experiences help in learning and retention of what is learnt.

Speech and Communication

Many children with cerebral palsy may have speech impairment or have a time lag in response and some may even be nonverbal. However, all of them want and need to say many things! Many nonverbal children also respond. They may use various parts of the body to communicate. They may use hands, eyes or a nod of head. Encourage them to communicate.

Many children with cerebral palsy may have drooling (salivating). Such children should be taught frequent swallowing and reminded about mouth closure while eating. Chewing and swallowing are important as good eating practice is integral part of speech training.

Cognition

Children with Cerebral Palsy need certain physical adaptation to cope with school curriculum. Concept development is fundamental in the education of children with cerebral palsy. In general, these include body awareness, object and situation characteristics, time and distance awareness, spatial awareness, measurements, orientation of environment and so on. These should be consistently focussed in these children.

Reader and Scribe Services

Due to their disability, some of these children need assistance during examination time. For example, a child with cerebral palsy/difficulty in hand functioning may benefit by a scribe to write the examination. In many such examinations including class tests and term end examinations many non-disabled children from the same class, or from higher classes may be involved in assisting children with cerebral palsy/difficulty in hand functions.

6.8 ADAPTATION IN CURRICULUM FOR CHILDREN WITH MULTIPLE DISABILITIES (MD)

Multiple disabilities refer to a combination of two or more disabling conditions that have a combined effect on the child's communication, mobility and performance of day-to-day tasks. This can have combination of disabilities such as deaf blindness, CP and hearing impairment, blindness and intellectual disabilities – in short, a combination of disabilities. Every child with Multiple Disability is different as s/he can have a varied combination of disabilities

There are some aspects that this group of children have in common.

- It affects the all-round development of the child
- Communication with the world around is severely affected
- Opportunities to interact with the environment becomes very limited
- Ability to move around in the environment is restricted
- Need regular help in simple day-to-day activities such as wearing a shirt, opening a door, finding a chair to sit down and so on.
- A highly structured educational / rehabilitation programme helps in their training

Effective teaching leads a child to function as independently as possible in the world around him. A curriculum for a child with multiple disabilities needs to reach the goal of enabling the child towards personal adequacy, social competency and economic independence, and more significantly, make his life easier and healthier.

Teaching Strategies for Children with Multiple Disabilities

Giving choices for communication, problem solving, exploration and independent mobility are the key areas of teaching program. A constant interaction between the child and his parents or other caregivers is important. This will help build a safe and trustful world for him. Reward and reinforcement are very basic to the learning environment of the child. Attention and praises for the desirable behaviour will not spoil any child with multiple disabilities any more than it would spoil the other siblings.

Independence is the goal: No matter how small or big the task is, the child should learn to be independent in the activity as far as possible.

Teach skills that are functional and meaningful: with the limited opportunities available to the child, it is wise to teach him things that are directly related to his environment and those that he has high chances of carrying out frequently and is essential for independent living.

Teach skills in natural settings: This point can never be stressed enough number of times. The child can remember things that he learns while going through his/her day to day routines. This helps him to learn better and remember, thus minimising the need for transfer of training.

Help: Encourage the child in every attempt. Be patient and give him enough time to respond/carry out the activity. Allow him to try. Do not be in a hurry to extend help. Involve peer group wisely.

Take advantage of the teachable moment: Sometimes you may not plan to teach an activity, but the child shows curiosity to explore an object. Use this time to teach him more about that object.

Provide repeated opportunities to practice: This will help the child to get opportunities to try the activity many times and master it.

Use real objects: As mentioned earlier in the context of teaching in natural setting, use of real objects where possible is more meaningful in enhancing learning.

Develop routines: Have a fixed timetable for the day with the child. This helps him to have more control over his life and to anticipate what is going to happen with him next.

Multi-sensory approach: It is best to make use of all remaining sensory abilities of the child- like seeing, hearing, touching, smelling and movements. All should form a part of the teaching moments for the child.

Plan activities: With highly individualized activities being planned for the child, there is always a risk that either the parent or one caregiver is constantly trying to teach the child. It is important that the child should know what others enjoy doing and for him to be part of that too. Plan certain activities that he can do with other siblings in the family and peer group in school.

Make use of resource persons from the community: It is important that the best advantage is taken from the resource persons from the community as teachers.

Environmental/physical accommodations/modifications

- Provide preferential seating
- Alter physical arrangement of classroom
- Reduce distractions
- Provide quiet corner/room/study carrel when needed
- Modify equipment if needed
- Adapt writing assignments appropriately to suit the need
- Help in maintaining uncluttered space
- Provide space for movement.

Evaluation-Accommodations

- Allow answers to be dictated
- Allow frequent rest breaks
- Allow additional time
- Allow oral testing/using sign language
- Give variety of test (multiple-choice, essay, true-false) based on the combination of disabilities the child has.

- Accept short answers
- Allow open book or open note tests if it is justified
- Shorten test
- Read test to student if he needs
- Provide study guide prior to test
- Highlight key directions
- Give test in alternative site – only if justified
- Allow calculator, word processor

As we are considering inclusive class room environment, provide the above supports only if justified and do not be in a hurry to implement all the suggestions given above to all students with MD.

Check Your Progress II

Notes : a) Write your answers in the space given below.

b) Compare your answers with those given at the end of the unit.

4) What is the basic premise of multi-sensory approach?

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5) Discuss adaptation in physical environment for children with loco motor impairment and cerebral palsy.

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6) Discuss evaluation accommodations for children with multiple disabilities.

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6.9 LET US SUM UP

The National Curriculum for Teacher Education (NCTE, 2009) clearly states that teacher education institutions will need to reframe their programme courses to include the perspective, concept and strategies of inclusive education. The inclusion of children with special needs is the prime concern. Various policies have recommended that, the curriculum needs to be adapted based the on the nature and type of special need. The same curriculum is followed for children with special needs in inclusive classrooms. Adaptation is the means to facilitate learning in every possible manner to maximise learning or provide options in such a way, that all children can learn. For visually impaired the need is more in the instructional material and methods, for hearing impaired teaching strategies should be adapted which includes storytelling, direct activities and description through pictures. For intellectually disabled the adaptation in teaching strategy is more required and for the loco motor and cerebral palsy the adaptation in physical arrangements, sitting arrangements and furniture. For children with specific learning disabilities the adaptation is needed for remedial purposes, particularly teaching strategies and instructional methods. Similarly, for children with autism spectrum disorder adaptation is required in improving social skills and communication in addition to learning academics, for children with multiple disabilities adaptations are required to enable the child towards personal adequacy, social competency and economic independence.

6.10 UNIT END QUESTIONS

1. What are the main components which a teacher should consider in curriculum adaptation?
2. To what extent the plus curricular activities are important for teaching children with visual impairment?
3. Describe remedial strategies for writing for a child with specific learning disability.

6.11 ANSWERS TO CHECK YOUR PROGRESS

1. The adaptation in curriculum has been defined as the concept of adjusting in educational programmes to accommodate diversity in student learning. Rather than being viewed as an "add-on", the curriculum adaptation must be viewed as an essential ingredient that spreads throughout the curriculum and instruction in all general, modified and alternate education programmes.
2. The term expanded core curriculum (ECC) is defined as concepts and skills that often require specialized instruction with students who are blind or visually impaired to compensate for decreased opportunities to learn incidentally by observing others.
3. The areas of expanded core curriculum are 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.

4. The multisensory approach is based on the premise that some students learn best when content is presented in more than one modality.
5. The physical structure of the classroom may be changed by the teacher to ensure effective learning. Circular or horse shoe arrangement of furniture is advised for all children where there is lack of space for such arrangements, consideration for mobility of children with loco motor impairment and cerebral palsy (using mobility aids) should be observed.
6. Evaluation-Accommodations for children with multiple disabilities are
   - Allow answers to be dictated
   - Allow frequent rest breaks
   - Allow additional time
   - Allow oral testing/using sign language
   - Give variety of test (multiple-choice, essay, true-false) based on the combination of disabilities the child has.
   - Accept short answers
   - Allow open book or open note tests if it is justified
   - Shorten test
   - Read test to student if he needs
   - Provide study guide prior to test
   - Highlight key directions
   - Give test in alternative site – only if justified
   - Allow calculator, word processor

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