PROGRAMME:
Advanced Certificate in Inclusive Education (Cross Disability)

Block II: PEDAGOGY FOR INCLUSIVE EDUCATION

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According to NCFTE 2009, inclusive education refers to a philosophical position as well as an arrangement of institutional facilities and processes. This is to ensure access to and conditions of success in education for everybody, including those in the margins, either with learning difficulties because of physical or mental disabilities or because of their social position.

Policies and laws of our country have enabled inclusion of children from diverse backgrounds besides children with disabilities to be enrolled in regular schools. It is not enough if we just enroll all children in schools. The Right of Persons with Disabilities Act 2016 (RPD Act) mandates inclusive education and stipulates that children with disabilities be admitted in all educational institutes without discrimination and provided with an environment that maximizes academic and social development with the goal of full inclusion. As a moral obligation to the profession of teaching, we need to ensure that all of them learn meaningfully besides implementation of the law till school level. This block, pedagogy for inclusive education is meant to help you, as prospective inclusive education teachers, to understand the principles of inclusive teaching learning, develop skills for creating inclusive learning environment at school, to understand the concept of Universal design for learning and its implementation which is the current method for developing inclusive practices besides knowing how to create and develop learning resources which is an intrinsic component of inclusive pedagogy. This block also has dealt with contemporary development in teacher education and the need for reflective practices to develop self-identity, human relationships, assumptions, beliefs and attitudes in the teacher. While this block provides you with a basic theoretical background on learning and pedagogy for inclusive education, remember it’s not meant only as a block or reading material but as a teacher you have to play a key role in bringing about the change in the pedagogy and classroom practices which promotes and creates an inclusive learning environment.
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Unit 1: Learning in an Inclusive School Environment

1.1 Objectives
After going through this unit, you will be able to:
- Recognize socio cultural challenges influencing learning in children including children with disabilities.
- Understand diversities and individual differences that impact learning.
- Recognize the challenges in learning faced by children with disability
- Identify and address diversities in learning style
- Recognize the barriers in learning faced by typical children.

1.2 Introduction
Meeting the educational needs of students is part of the development of equitable provision in an inclusive society where individual rights are recognised and protected. The United Nations Charter on the Rights of the Child, for instance, states that all children have a right to education and as a consequence the right to make progress. Failure to provide education and create the conditions for individual progress may be seen as a denial of a child's rights. Denial of these rights or capabilities with regard to children can be seen as a precursor of social exclusion (Evans et al., 2002). Classrooms are no longer a homogenous group because every child is different in terms of socio cultural differences, language, gender and human diversity. Diversity is an inherent part of the society. Hence as a teacher while addressing the needs of diverse learners you need to be aware what are the areas of diversity and how they overlap and affect Child’s learning. Teachers need to prepare for lessons which accommodate and facilitate learning, irrespective of the child’s socio-cultural background or his learning style. Having diverse learners needs to be viewed in a positive way for all children, including children with disabilities and especially neuro-typical children benefit being in such an inclusive environment. They learn mutual respect and develop empathy and more inclusive and supportive attitude. Diverse learners are a true reflection of society. They learn to grow up together and as adults they will learn to relate better as colleagues, employer, employees, neighbors and friends. This unit provides with an understanding of socio cultural challenges influencing learning in children including children with disabilities and means of overcoming them.
1.3 **Addressing socio-cultural challenges influencing learning:**

In recent years, the attention of professionals in disability sector has shifted from the medical model to bio-psycho-social model. Instead of continuing the old debate about nature versus nurture, we must understand how nature and nurture interact in development. At best, we can state that with any biological predisposition, the environment of the home in which a child is raised, and the larger social environment outside of the home, all influence the development and learning of that child.

Cultures and social groups are also characterized by particular ways of thinking. For effective participation in social activities in the culture, members of the culture are expected to learn these. Some theories of learning and thinking propose that individuals learn ways of thinking directly in their social interactions with others, particularly they are engaged in solving socially defined problems. They internalize this activity and later use the newly-learnt mental processes by themselves, without the support of others; cognitive development is "the conversion of social relations into mental functions" (Vygotsky, 1981). This principle states that when beginning an activity, children rely more on others with more experiences. But later on, with time, they take on more responsibility for their own learning and participation in joint activity (Lave & Wenger, 1990). Lave argues that learning is situated; that is, as it normally occurs, learning is embedded within activity, context and culture. It is also usually unintentional rather than deliberate. Lave and Wenger call this a process of “legitimate peripheral participation (1990)” Rogoff (1990) expanded this idea and characterized this process as ‘guided participation’.

The socio-cultural influences can be of different nature- psychological, emotional, biological, moral and so on. It is very necessary to provide a healthy environment for the child to develop adequately in his or her society. The social/cultural environment consists of the norms, values, belief systems and morals. It is the standards of behaviour that regulate life in the cultural group in which the child is raised. The degree and type of stimulation the child is getting from his environment also has a huge role to play. The nature of interpersonal relationship and nurturance the child is having helps the child’s development of his or her personality and sense of self. Thus, the child’s immediate environment and the culture in which the child is being brought up both has an immense effect on the child.

1.3.1 **Different Socio-cultural factors:**

i. **Family environment:** Family is viewed as a complex set of interacting relationships. And this system depends on bi-directional influences. Under this broad perspective, there are many factors which can be the prime focus on their own.

a. **Socioeconomic status:** SES is an index that combines years of education, prestige and skill required by one’s job and income. As SES rises and falls, parents and children face changing circumstances that profoundly affect family functioning and the child’s learning. SES has an important role in the developing the child’s values, self-direction, confidence, self-esteem and socialization which in long run affects the child’s learning.

b. **Family structure:** Nuclear and extended family set-up has different kinds of child-rearing practices and value systems. Quality and quantity of time spent with the child often has an immense effect on the child’s development. Children coming from broken
families often have hidden emotional issues which can be manifested in their learning difficulties.

c. **Child rearing practices:** Different parenting styles-authoritative, authoritarian, permissive and uninvolved parenting- all have their own effect on the child. Where authoritative parenting encourages the child to express his thoughts, feelings and desires; the children with authoritarian parents are more submissive and anxious in nature. Adjustment with the environment also depends on the parenting style as well.

d. **Vulnerable families:** Child maltreatment in the family is not new but its immense effects have recently been recognized. Physical abuse, sexual abuse, physical neglect, emotional neglect and psychological abuse all can leave the child traumatized and his or her development devastated.

e. **Children of parents with Psychiatric Disorders/AIDS etc.:** Stigma associated with the psychiatric disorders, AIDS, cancer etc. often leaves the family isolated from the society. This also has a huge effect on the children coming from these families. They often feel secluded and teasing and bullying is also accompanied many a times. School refusal is a common result.

ii. **Personal Factors:**

a. **Physical & Mental Health:** A healthy and happy child can participate in various activities which shapes his social development, personality, self-esteem and confidence. These all have an effect on his learning. The child becomes more curious, he learns through experiences and exposure to the environment. If the child is depressed or anxious it will definitely affect his functionality. ADHD, ODD are mental health issues which should be immediately addressed for the child’s development.

b. **Temperament of the child:** An easy to warm up child is curious, can take criticisms and failure adequately, is social, joyful and can cope with the stress. But if the child is of Type A personality, then he might be impatient, angry, impulsive, competitive and may experience stress more often. The child’s ability to cope with the perceived stress often determines his ability to solve problems which determines and facilitates his learning styles in future.

c. **Emotional issues:** Children often have difficulty in understanding, regulating and expressing their emotions in adequate way. Children’s emotional issues can also be manifested in sudden drop in their academic performances, inattention, irritability or oppositional tendencies. Family conflict, physical and sexual abuse, teasing, bullying should always be kept in mind if such kind of behavioural manifestations are seen.

d. **Age:** Age also plays as an important factor in the child’s style of learning. In the beginning, the children depends more on the parents and teachers but later on they relies more on their experiences. The transition from early childhood to adolescence is very critical and education should also be modified accordingly.

iii. **Social Factors:**

a. **Cultural Values:** Different cultures have their own sets of values which influence the child’s sense of self and coping strategies.

b. **Prejudices:** Prejudices regarding gender, different ethnic groups or even towards certain physical characteristics can come as a hindrance for the children to learn adequately. Body dysmorphic disorders, anorexia nervosa etc. are often the results of such prejudices.
The above factors also have implications to children with disabilities therefore with other children from diverse background in the class as a teacher one has to understand the sociocultural context and be sensitive to the students need and not judge academic or behavioural setback as the child being bad.

The values of each culture affect the way a student from a culture learns. One learns about the world and how to behave according to the rules and values of one’s culture. The learner applies these rules in the same way in the classroom. It is important for a teacher to be aware of these values and what kind of learners they create. While taking into consideration the differences in cultural values is good, a teacher must be careful to not over-generalize or stereotype a student based on the cultural norm of his/her ethnicity. Rather the teacher should get to know the student as an individual to understand his or her background that can affect learning. Teachers should also individually assess students to find out what ways he or she learns best. By knowing the ways students learn best, a teacher can effectively plan lessons to promote optimal learning for all students in the classroom.

1.4 Diversities and Individual Differences

India is a country of huge diversity and now with a population that is more and more mobile the students in our classroom will be diverse in many ways. Diverse not just in socio economic background but diverse in their learning style also. And while it is true that fostering diversity is an idea which is consistent with some of our most enduring national ideals, such as respect for the right of each individual to pursue life in their own fashion, promoting these ideals in the classroom can often prove very difficult. The difficulties which must be overcome stem from several sources:

- A basic lack of knowledge of the diverse people and the lifestyles.
- The prejudices, many of which are not acknowledged.
- Deep seated feelings of guilt, anger, frustration which are often stirred by the discussion of the diversity issue.

A successful pedagogy must start with an awareness of these difficulties and some fundamental strategies for overcoming them.

Diversity in the classroom takes multiple forms. We often think of diversity in demographic or group terms, such as age, class, culture, disabilities, ethnicity, gender, or sexual orientation. But the most common involves individual difference: in background, levels of preparation, learning styles, interests, and abilities. To be effective teachers it is important to understand how individual children take in and process information. Not all children learn the same way. In a class of diverse students there are also individual differences amongst the children with disabilities. Developing an inclusive curriculum is a transformative process for the instructor and the students. It entails a paradigm shift in which basic assumptions are examined and changed. Thus, undertaking the project requires desire, curiosity, willingness to travel into unknown pedagogical terrain, and patience with oneself and with one's students.

In an inclusive education system the aim is not “fix” the child to fit in. It is more about adapting the educational environment so that the system is more supportive and responsive to a diverse group of learners. Inclusive education embraces and celebrates diverse groups and individuals.

Children with disabilities enter the class with diagnosis such as Autism, Specific learning disabilities, Down’s syndrome, Cerebral Palsy, and teachers need to avoid making
assumptions about students with a disability based solely on the diagnosis. The diagnosis may help to give a broad understanding of the accommodation that might be required for that child, but may not give insight into more specific and individual difference.

To avoid treating everyone as per their diagnosis teachers needs to learn their student’s individual strengths irrespective of the diagnosis. For example a student with Autism may have difficulty with writing but another child in the same class who also has Autism may not. The diagnosis should not limit any child to full participation in their education. Teachers also need to keep in mind for children with disability like their typical classmates may belong to a specific socio economic group or have issues at home and that can influence their learning. Teaching such diverse groups of students mean, teaching can be exciting and will require some amount of planning. Some points to keep in mind:-

- A Child’s diagnosis, cultural or ethnic background should never cause embarrassment to the child. Instead diversity needs to be celebrated.
- The lesson plans need to reflect the diversity of the students. Reading stories that are about someone with disability or from a different socio economic group.
- The classroom or learning environment needs to accommodate variety of learning styles.
- Lesson plans and materials used need to be reviewed form time to time.
- The language, and interaction of the teacher with the students needs to reflect inclusiveness.
- Plan lessons so students have an opportunity in using their strength, to learn and “shine” in the class and school.
- Literature also shows that discussion as a learning style often generates a sense of empowerment and belongingness. When the students are free to discuss and present the ideas openly, there are plenty of chances that they will feel accepted and valued in the class.

1.4.1 Neuro diversity

A positive and more empowering way of looking at the diverse learners in an inclusive classroom is what is called “nuro-diversity”. About 15 years ago, activists for individuals with autism coined the term neuro diversity as a way of helping to redefine their identity (Blume, 1998; Singer, 1999). With this term, people with autism signaled to the world that they wanted to liberate themselves from the prison of negative expectations. Instead, they wished to be seen in a more positive way—as “differently wired” individuals. Since then, the neuro-diversity movement has gained adherents and spread to other disability labels, including learning disabilities, emotional and behavioral disorders, and attention deficit hyperactivity disorder (ADHD) (Hendrickx, 2010; Pollak, 2009, Armstrong, 2012). The neurodiversity paradigm suggests that we take the positive attitudes and beliefs that most people hold about biodiversity and cultural diversity and apply them to differences among human brains.

In his book “nurodiversity in the classroom” Dr Thomas Armstrong discusses the concept of positive niche construction—that is, the establishment of a favourable environment within which a student with special needs can flourish in school. Dr Armstrong talks about “least restrictive environment”. He says “Instead of spending all of our efforts in trying to make students with special needs more like “normal” students, I propose we devote more attention to accepting and celebrating their differences” (Armstrong, 2011).
According to Dr. Armstrong (2011) there are seven component of Positive niche construction:

1. A comprehensive assessment of a student’s strengths,
2. The use of assistive technologies and Universal Design for learning methodologies,
3. The provision of enhanced human resources,
4. The implementation of strength-based learning strategies,
5. The envisioning of positive role models,
6. The activation of affirmative career aspirations, and
7. The engineering of appropriate environmental modifications to support the development of neuro-diversed students.

A neurodiversity perspective brings together the best elements of both regular and special education to serve the needs of all learners. Neurodiversity inspired educators have a deep respect for student differences and seek ways to join nature and nurture together to create the best ecological niche (or differentiated learning environment) for each student. Educators should also become familiar with the research literature on the strengths of students with special needs labels (Armstrong, 2011, in press). They should thoroughly examine students’ cumulative files and mine them for any data that reflect strengths, talents, abilities, and interests. They should collect positive information about each student using a variety of tools, including strengths inventories; success portfolios (containing work samples, photos, and DVDs of the student’s accomplishments); and appreciative inquiry (a method of focusing individualized education program (IEP) meetings on strengths, hopes, and interests) (Kozik, 2008).

By changing from a deficit orientation to a diversity perspective, and by creating positive ecosystems within which students with learning differences can learn according to their strengths rather than their weaknesses, we can help these students become who they are truly meant to be (Armstrong, 2012).

1.5 Challenges in learning faced by children with disability

The present barrier to providing quality programmes for all young children remains at times overwhelming, especially in economic realm (Meyers 2000; Mpofu et al. 2007). Although the concept of inclusive education has been promoted internationally for more than two decades many countries engaged in the OOSCI (Out Of School Report a study conducted by UNICEF and UNESCO) reported the presence of multiple barriers that contribute to exclusion of children with disabilities from education. These factors extend beyond the boundaries of the school and classroom.

The challenges faced by children with disability in learning are not due their disability but the lack of effective participation in their educational life. The lack of participation can be for many reasons. A major reason for lack of participation is poverty. Where there is poverty with disability the situation is aggravated even more. Poverty is a cause and a consequence of disability. In a situation of poverty Children with disability are even less likely to access schooling or any kind of therapy.

The lack of participation in can also be due to lack of or very little infrastructure, a shortage of skilled personnel’s and most of all attitudinal barriers. Attitudinal barriers are the most difficult barriers to overcome yet a teacher can with sensitivity and skill bring about changes. The attitudinal barriers are not just in the education system and community but also at home
and family. A recent study carried out in northern rural Ghana discovered that children with disabilities are viewed by parents as not having any or a very limited capacity to learn. These perceptions act as a barrier in schools where teachers and head teachers do not promote inclusive education (UNICEF and UIS, 2012). Changing and bring about a positive attitude not only positively impacts the life of the child with disability but also the extended family and community.

Though it cannot be disputed that parents of disabled children face a great deal of stress, it is now important to move away from describing these stressors and their adverse effects. Instead, research should now focus on exploring the ways that such families cope with varying degrees of success. Several studies have been done which recognize that many families have been successful in developing positive perceptions regarding raising a child with disabilities. Recent studies have consistently reported that families with a child with disabilities can and in fact do have positive perceptions, which lead to better quality of life for the family, and scope for maximizing the child’s potential. Though precipitated by a specific event, formation of positive perceptions is usually a process, which can occur simultaneously or a long-time after the event. (Gupta et. al, 2014).

Helping parents to develop positive perception of their child with disability:

• Read up and learn about the diagnosis of the children with disability in the class instead of relying on heresy. Remember that there are individual differences in children who may have the same diagnosis.
• Find out from parents how their child communicate, spend time and how they support their child this often shed lights on the child’s strengths.
• Parents need to be informed about how their child is being supported and accommodated in school, and what the outcome of the support is. This may help parents to try out some strategies at home.
• It is important for teachers to be nonjudgmental towards parents, which enable a positive attitude. Parents are not to be blamed for having a child with disability.
• There should also be a nonjudgmental attitude towards children with disability especially those who may at show difficult behaviours. It is best for all to find out the function of a behaviour and find a solution.
• Maintaining a home-communication booklet, and providing time for parents to meet teachers, help in keeping parents and the child with disability involved. The exchanges by communication booklet and meetings should not just focus on the weaknesses of the child but also his/her achievements whatever that may be.
• Working collaboratively with parents and carers and encouraging involvement in the development of individual educational plan can enhance learning outcomes.

Attitudinal barriers can also exist in the school amongst different staff members, with other typical students and the parents of typical students. Again the teachers can bring about a change in attitude by her/his skill and own behaviour, towards the student with disability. A special educator in an inclusive school is a resource person for the school and has the important job of networking with other staff in administration, other teaching staff and non-teaching staff. A very important job of the special educator is to advocate for the children with disability. Advocate means to ensure the children’s participation in school events and celebrating the children’s success.

While making an educational plan teachers are required to focus on needs of the child but teachers should also focus developing areas of strengths. Teachers need to know what
interests the child what is the child most passionate about. If our only knowledge about students with special needs is based on the negatives in their lives (poor test results, low grades, negative teacher reports, and so on), our ability to help them succeed will be seriously compromised. We need to put even more energy into detailing their positive attributes than we do into assessing their deficits. Educators should become familiar with the research literature on the strengths of students with special needs labels (Armstrong, 2011).

School is not just a place for learning academics but also about learning about relationships, emotions and forming friendships. Making friends can be difficult for many students with disabilities therefore providing structured support setting up a buddy system or a circle of friends can promote social relationships.

Other activities that promote friendships are collaborative learning and peer tutoring (remember some children with disabilities can be a tutor to regular children) in planned classroom activities. Children with disabilities need to be able to participate in everyday school activities along with their peers. Adaptations to teaching methods, curriculum and the physical environment in the classroom and playground may be required.

From an early age typical children are allowed to think of their future and what dreams they may have. For children with disability the right to dream is limited as their disability dominates the views and opinions of adults around them. Therefore children with disability can feel less motivated to learn and persevere in school.

Children with disability need to be allowed to dream and have aspirations like their typical peers, which will motivate them to participate in their educational life. Teachers can facilitate this by introducing all children in their class to different career. Not restricting them to doctors and engineers but shop keepers, fire-fighters, nurses, artists, singers, people working in hotels, hospitals, rail ways, banks, postal service, police and teachers.

1.6 Addressing diversities in learning styles

The correct evaluation of students should be a combined effort of the teacher, the school counsellor or special education teacher, and the student. Together, this team can design an individualized program that will challenge the student while providing adequate opportunity to achieve attainable goals. In some cases, parents or guardians should also be involved in setting achievable goals. How students learn influences what they learn, how well they learn it, and how much they enjoy the learning experience. Just as no two students are exactly alike; no two students learn in exactly the same way (Hohn, 1995). Everyone has preferred way of learning which needs to be kept in mind while teaching children in an inclusive class.

Psychologists and educators have developed many theories of learning and identified an array of learning styles. Some learning style theories concentrate on the sensory pathways that students use to learn. Other theories focus on the physical environment in which learning takes place. Still others emphasize social interaction as it relates to learning. It is important to realize that the way someone learns is not an indicator of intelligence. Two people of similar levels of intelligence may learn best using two different styles of learning. While there are no indications that one learning style is better than another, it is true that certain teaching methods and modalities favor certain learning styles. In order to teach these group, it is very necessary to understand different learning styles and tailor the teaching to meet the needs of all of the students.
Many people may have a dominant learning style; however, most can adapt their learning style to the demands of the material to be learned. It is also important to note that while students have a preferred learning style, they can benefit from teaching that incorporates a variety of modalities and should be encouraged to explore new options for learning. Given the opportunity and some encouragement, the student may discover a new way of learning. Through highlighting some of the characteristics of learning styles, the emphasis is paid on the understanding that individual differences and preferences play an important role in learning. The teacher’s choice of lectures, activities, projects, and assignments have a significant impact on the students’ success. Adding diversity to the teaching will accommodate the learning styles of the students and make one’s teaching more exciting and enjoyable.

There are broadly five different learning styles:

**Print Learner:** Print learners prefer to see the data in print, preferably printed in words. When introducing course concepts or the steps of a process, print learners like to read about the information and then study an illustration or other visual aid.

**Visual Learner:** Someone with a Visual learning style has a preference for learning by observing and seeing. Such persons prefer learning by looking at pictures, diagrams, videos and watching demonstrations.

**Auditory Learner:** Someone with an Auditory learning style prefers to take in information by listening: to the spoken word, of self or others, of sounds and noises. They learn better when something is explained to them by spoken words.

**Tactile Learner:** Tactile learners learn best by touching or handling objects. By fourth grade, tactile learners appreciate learning activities that use fine motor skills including writing. Manipulatives are particularly important for tactile learners. They also benefit from participating in hands-on activities, role playing, and creating displays. Tactile learners remember what they did and how they did it; they do not necessarily remember what they saw others do or what they heard.

**Kinesthetic Learner:** Kinesthetic learners achieve best by taking an active part in classroom instructions. Motion is an important part of kinesthetic learning including motion that is not specific to the learning process. Simply allowing students to move about the classroom can be particularly helpful to kinesthetic learners. For example, walking to the board to work a problem involves the motions required to walk and write.

These learning styles are found within educational theorist Neil Fleming’s VARK model of Student Learning. VARK is an acronym that refers to the four types of learning styles: Visual, Auditory, Reading/Writing (For some older students reading & writing is a preferred way of learning Preference) and Kinesthetic. The VARK model is also referred to as the VAK model, eliminating Reading/Writing as a category of preferential learning. The VARK model acknowledges that students have different approaches to how they process
information, referred to as “preferred learning modes.” The main ideas of VARK are outlined in Learning Styles Again: VARKing up the right tree! (Fleming & Baume, 2006).

While conceptualizing the model of preferred learning, the researchers also came up with some core ideas which include:
- modal preferences influence individuals' behaviours, including learning
- modal preferences are not fixed, but they are stable in the medium term
- both students and teachers can reliably identify and provide examples of their use of modality preferences in learning
- preferences can be matched with strategies for learning. There are learning strategies that are better aligned to some modes than others. Using your weakest preferences for learning is not helpful; nor is using other students' preferences
- information that is accessed using strategies that are aligned with a student's modality preferences is more likely to be understood and be motivating
- the use of learning strategies that are aligned with a modality preferences is also likely to lead to persistence learning tasks, a deeper approach to learning, active and effective meta-cognition
- knowledge of, and acting on, one's modal preferences is an important condition for improving one's learning.

Other types of learning styles to be noted is Howard Gardner Multiple Intelligences
- Spatial Linguistic
- Logical-mathematical
- Bodily-kinesthetic
- Musical Interpersonal
- Intrapersonal Naturalistic

No child has an exclusive learning style but preference for one. Children with a specific disability will have a very dominant learning style. For example those with visual impairment will have strong preference for auditory and kinaesthetic learning. Those with Autism who can hear but may have difficulty with auditory processing are strong visual learners. Strong visual learners are off course also those with hearing impairment. Therefore, teachers need have a multimodal way of teaching.

A combination of teaching styles is may be incorporated into lesson plans. Teachers can engage the entire class by providing visuals, telling stories and offering activities that explore the curriculum the children need to learn. By incorporating the three most common learning styles that is visual, auditory and Kinesthetic in lesson plans, teachers can provide an environment that engages the entire class.

Early education provides the foundation for a successful academic career. Children need to explore different ideas and learn the basics of numbers, letters and relationships. Teachers should provide an engaging environment that incorporates several learning styles to help the entire class understand information

1.7 Challengess in learning faced by Nuro - typical children

The essence of good classroom teaching is the ability to create an environment that first can mobilize the learner to pursue the curriculum and then can maintain that mobilization, while effectively facilitating learning. The process, of course, is meant not only to teach academics, but to turn out good citizens. While many terms are used, this societal aim requires that a
fundamental focus of school improvement be on facilitating positive social and emotional
development/learning. After an extensive review of the literature, Fredricks, Blumenfeld,
and Paris (2004) conclude: Engagement is associated with positive academic outcomes,
including achievement and persistence in school; and it is higher in classrooms with
supportive teachers and peers, challenging and authentic tasks, opportunities for choice, and
sufficient structure. Conversely, for many students, disengagement is associated with
behavior and learning problems and eventual dropout. The degree of concern about student
engagement varies depending on school population.

It is very important to pick up the signs if a child is having some problems in school. When
school problems are picked up early, the child has a much better chance of getting back on
track. School problems can show up as poor academic performance, lack of motivation for
school, loss of interest in school work, or poor relationships with peers or teachers. School
difficulties range from minor to severe, might be very short-lived or last for longer. Even
short-term school problems can have a negative impact on how young people feel about
school – and themselves.

Researchers indicate Children who don’t have positive learning experiences at school are at
risk of losing interest in learning and in school. A recent study in Australia revealed that
School and study problems were ranked in the top 10 concerns of over 47,000 young
Australians aged 11-24 years.

1.7.1 Common signs of school problems:

- Drop in marks in one or more subjects
- Lack of engagement, connection or involvement with school – for example, the child
  might not be interested in extracurricular activities or have very few friends
- Embarrassment or discomfort when talking about school
- Resistance to doing homework, or rarely talking about homework
- low confidence or lack of self-esteem – the child might say he is ‘dumb’, ‘stupid’ or
  not as clever as his friends
- excuses not to go to school or skipping school at a regular basis
- boredom with school work or not feeling challenged enough – your child might say
  he’s not learning anything new
- attention or behaviour problems
- experiences of being bullied or bullying others
- engaging into inappropriate sexual activities/ hyper-sexuality

It is very important to pick up the signs early otherwise they can have significant and
long-term consequences. To start with, children might have low self-esteem which in
turn, affects the child’s well-being in future.

1.7.2 Implications of labeling the Child

Another consequence of problems at school is that children can get tagged with unhelpful
labels such as ‘uninterested’, ‘easily distracted’ or ‘doesn’t try hard enough’. Worst of all,
young people often ‘own’ the label and begin to believe that they are ‘troublemakers’ or
‘misfits’. A poor sense of self is then probably the most definite outcome from this
situation. All these labels suggest a child is somehow to blame. But school problems are
often a sign that systems and support networks around a child aren’t adequate.
Causes of school problems:

**Individual factors** might include:
- chronic illness
- intellectual or cognitive difficulties
- behavioural or developmental difficulties
- mental health issues such as depression or anxiety
- experiences of trauma
- difficulties with self-esteem, communication skills or social skills
- difficulties with listening, concentrating or sitting still.

**School factors** might include:
- being bullied
- disliking, or not feeling connected to, the school culture or environment
- disliking school subjects, not liking the choice of subjects, or not feeling challenged by the work
- poor school or academic support, especially in relation to heavy workloads
- not getting along with teachers or other students at school
- skipping competing demands on time, such as extracurricular activities.

**Environmental Factors** are often ignored but they can become stressful in a child’s life and can affect his over-all development and learning. These may include,
- Challenges to Attachment
- Relationship Death of a Parent or Other Family Member
- Marital Discord/ Divorce
- Domestic Violence
- Other Family Relationship Problems
- Parent-Child Separation
- Foster Care/Adoption/Institutional Care
- Substance-Abusing Parents
- Physical Abuse
- Sexual Abuse
- Mental Disorder of Parent
- Physical Illness of Parent/ Sibling

Often their poor academic performances are related to some **emotional issues** which are either not acknowledged or are criticised. Each child has their own coping mechanism and not letting them express their emotions adequately or letting down their effort to cope with it can lead to severe psychological issues in future. Unaddressed emotional issues are the precursors of self-harming practices like wrist slashing, suicidal attempts, extreme concern with body-image etc. Black-and-white thinking, risk taking behaviours, internet addiction, engaging into multiple relationships are results of unnoticed or mismanaged critical events which led to development of a negative belief system.

Expressed emotion (EE) is another important issue which needs to be addressed (Khan et al. 2010). EE can be of different kinds- critical comments to the child, hostility can devastate the child’s confidence and self-esteem whereas over-involvement with the child can lead to child’s tendency to depend on adult figures during stressful situations. Solving difficult life
situations needs a balance between both emotional and cognitive problem solving situations; which develops from how their independent problem solving are treated.

Depending on the problems the child is experiencing, the following needs to be done:-

- Talk to the child in an empathetic manner and a
- Avoid stigmatizing or criticising the child for his or her sudden drop in performance.
- Help from the health professionals such as psychologists, school counsellor, psychiatrists can also be asked if problems further persists.

Promotion of mental health encompasses efforts to enhance knowledge, skills, and attitudes in order to foster social and emotional development, a healthy lifestyle, and personal well-being. Promoting healthy development, well-being, and a value-based life are important ends unto themselves and overlap primary, secondary, and tertiary interventions to prevent mental health and psychosocial problems.

Interventions to promote mental health encompass not only strengthening individuals, but also enhancing nurturing and supportive conditions at school, at home, and in the neighborhood. All this includes a particular emphasis on increasing opportunities for personal development and empowerment by promoting conditions that foster and strengthen positive attitudes and behaviors (e.g., enhancing motivation and capability to pursue positive goals, resist negative influences, and overcome barriers). It also includes efforts to maintain and enhance physical health and safety and inoculate against problems (e.g., providing positive and negative information, skill instruction, and fostering attitudes that build resistance and resilience).

1.8 Summary

- Socio cultural background should not be a barrier to learning.
- The child’s immediate environment plays a vital role in the child’s development.
- Importance of different social cultural factors that affect the development of the child.
- Even with is a specific group of children like children with Visual impairment or Autism or a child belonging to a particular socio cultural group there will be individual differences.
- Planning & good class room strategies can make the class function smoothly and effectively.
- The attitude of the teacher is vital in shaping attitude of the students and their families.
- When planning for a class of diverse learners it is important to first find out their strengths.
- The purpose of educating children with disability is not to “fix” them but to provide acceptance, support and an accommodating environment that will enable them to function and learn.
- All children may need support and understanding at sometime in their school lives and teachers need to be sensitive to their needs irrespective of their background.
- Networking and working collaboratively with parents and other professionals will help the child to function.
1.9 Experiential Learning:

1. Develop a fact sheet for a child with communication impairment which the parents can use while travelling by Air or for hospital staff during a short hospital stay the child has to undergo. This fact sheet will explain the child’s diagnosis, how to communicate with him/her, what he likes and finds uncomfortable.

2. Prepare a Power point presentation for the non-teaching staff in your school that will help them to understand and interact with children with disability in the school.

3. Organise a short cultural program in your class showing diversity of talents. Remember some of the talents may be a little off beat may be balancing, juggling, bouncing a ball many times in one minute etc.

1.10 Check your Progress:

1. What do you understand by the term “Neuro-diversity”.

2. What are common signs of learning difficulties faced by a neuro-typical child?

3. What is expressed emotion?

4. How does temperament of the child affect the child’s learning and development?

5. What is Vygotsky’s theory on cognitive development of the child.

6. What are the main types of learning style.

7. Why is parental perception important in the education of children with disability?

8. What are the different social factors that affect learning in all children.

9. In a school where there are diverse learners what would you keep in mind about your interaction with your students.

10. What are the seven component of “Positive niche construction”.

1.11 Assignment for Self-Evaluation

1. Draw two columns and in one column write down the difficulties that may arise when teaching a diverse & inclusive class any subject of your choice. In the second column write down the what you may do to overcome the barriers.

1.12 Tutor Marked Assignment:

- Explain the role of family environment on learning.
- How can emotional well-being and mental health influence child’s learning?
- Write down the impact of Piaget’s theory in the current context.

1.13 References


Unit 2: Teaching Learning Processes

2.1 Objectives
After going through this unit, you will be able to:
• Comprehend the principles of inclusive teaching learning process for developing inclusive classroom practices.
• Appreciate the need and importance of a teacher as a facilitator
• Establish an understanding of reflective practices for the development of a reflective teacher
• Cultivate the abilities of an inclusive teacher.
• Recognize the significance of networking and collaboration.

2.2 Introduction

“Inclusive means that as teachers, we have the responsibility to seek out all available support (from school authorities, the community, families, children, educational institutions, health services, community leaders, and so on) for finding and teaching ALL children.” - UNESCO tool Kit

The impact of policies and laws has changed the scenario of education sector significantly. Children from diverse socio economic and cultural back grounds besides children with disabilities are now in regular schools. A typical classroom of a school now will have children from diverse cultures, socio economic background and with human diversities or disabilities. Henceforth it becomes imperative for the teacher to understand the classroom both as an academic and social context, as it provides a setting for interaction dialogue and the opportunity to appreciate the diversity which contribute towards equal opportunities and development of an eco-system for inclusive education. Inclusive education caters to all children from the disadvantaged social groups, linguistic minority gender gifted and talented but this document is from the perspective of disabilities. One of the major challenges in developing the inclusive practise is to understand the child from the social context and its needs Teachers play a crucial role to develop future citizens of the country. Keeping in view the shift that has evolved over the years in the education sector as a teacher you need to understand the social, cultural and regional background in which learners grow besides
accepting the human diversity. One of the most important quality you need to develop in inclusive education is being humane and responsive to the demands of inclusive education.

An inclusive teacher needs to be equipped not only to teach but also to understand the students and their social background the family and the community they belong because children bring with them their culture their learning to the classrooms. Teacher’s play a key role in nurturing the child’s development and education therefore they also have to be a facilitator for learning to nurture the child development. Professional development is an important aspect for teachers reflection and reflective practices helps in development of ones potential as an effective teacher for inclusion. This unit provides with knowledge and skills in strengthening development of Inclusive education teacher and enable them to develop inclusive practices at school level.

2.3 Teaching learning process in an inclusive setting

Classroom dynamics have changed over a period of time. Classrooms now have children from the disadvantaged and different socio economic groups besides children with disabilities. Hence the socio economic conditions and disabilities with the children have implication for their learning therefore as a teacher you need to consider these aspects and understand the child need and accordingly develop inclusive classroom practices for achieving learning outcomes for all children including children with disabilities. There is a need to shift from the teaching learning strategies originally designed for an imaginary average student, to create curriculum, instruction, and assessments deliberately and purposefully to address the range of diversity that exists from disabilities, the communication variability and the intellectual diversity found in heterogeneous classrooms Teachers are urged to adapt, adjust, change, and modify their curriculum, their instructional practices, and their assessments to accommodate each student’s distinctive individuality fairly and equitably (Rachel A. Lotan).

2.3.1 Principles of Inclusive teaching learning process

Principle of inclusive teaching learning is based on the core philosophy that all children, irrespective of their abilities or disabilities, socio cultural background, economic status, religion/ caste or gender should study together. The belief has emerged from research in diverse fields such as psychology, sociology behavioural science etc..

Broadly what these researches tell us is that:

- Intelligence is dynamic and is shaped by cultural expectations, experiences and opportunity There is no one measure of intelligence
- Human development and learning are influenced both by socio cultural and psychological factors (including language, values, perceptions, motivation, emotions, interpersonal behavior)
- Learning is not only an individual psychological process but a social process also. It involves interactions among children, between children and teachers/adults, with the surrounding environment, including resources.

Therefore, the following eight principles have great significance for the teacher to develop an inclusive teaching learning environment.

1. Respecting learners with different abilities and value, diverse talents, different ways of learning and their socio background and personal histories
2. **Recognizing** and responding to the specific need or additional challenges of learning and makes necessary provision.

3. **Creating learning friendly environment** which facilitates learning for ALL children including children with disabilities.

4. **Using of flexible and multiple learning approach** based on the child’s learning pace and style.

5. **Use of universal design principles** to create accessible classes.

6. **Use of technology** for meeting the specific needs of children with disabilities e.g ICT, aids and appliances and communication technology.

7. **Reducing barriers** within learning environments -

8. **High expectations** for all learners including children with disabilities.

### 2.3.2 Principles and Practices for inclusive teaching learning process

<table>
<thead>
<tr>
<th>Principles</th>
<th>Practices</th>
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<tbody>
<tr>
<td><strong>1. Respecting learners with different abilities and value, diverse talents, different ways of learning and their socio background and personal histories</strong></td>
<td><strong>Be reflective by asking yourself the following:</strong>&lt;br&gt;- How might the backgrounds and experiences of your students influence their motivation, engagement, and learning in your classroom?&lt;br&gt;- How can you modify course materials, activities, assignments, / exams to be more accessible to all students in your class?&lt;br&gt;- Be proactive in understanding the learners&lt;br&gt;- Incorporate diversity into your overall curriculum</td>
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<tr>
<td><strong>2. Recognizing and responding to the specific need or additional challenges of learning and makes necessary provision</strong></td>
<td><strong>Use of braille, alternate communication provisions such as sign language besides other ICT based learning methods for supporting children with disabilities.</strong></td>
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<td><strong>3. Creating learning friendly environment which facilitates learning for ALL children including children with disabilities (Details of inclusive learning environment are in the Unit 4ILFE)</strong></td>
<td><strong>Raise questions – Questions are crucial for communication which encourages participation enables confidence. Many children would need time and a non-threatening atmosphere before they are ready to ask questions.</strong></td>
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<td><strong>4. Using of flexible and multiple learning approach based on the child’s learning pace and style.</strong></td>
<td><strong>Utilize a variety of teaching strategies, activities, and assignments that will accommodate the needs of students with diverse learning styles, abilities, backgrounds, and experiences</strong>&lt;br&gt;- Provide flexibility in how students demonstrate their knowledge and how you assess student knowledge and development.&lt;br&gt;- Provide explanations in their own preferred style – giving learners opportunities to explain what they are learning, would clarify their understanding and also help provide a variety of forms which may appeal to different groups of children. For example: The language of a child**</td>
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giving verbal explanation would be simple enough to be understood by many others; learners who are inclined to draw can depict what is being learnt in graphical forms; Children who are skilled with their hands can create models and so on.

- Multisensory approach using of different senses in the teaching learning process,
- Engage in group work – Flexibility and diversity in grouping ensures children work together to create and extend each other’s understandings. Assigning group work is complex and needs careful planning. A teacher has to design the task(s) for the groups to engage in, s/he then has to decide on the size and nature of grouping, keep the required resources (if need be) ready, and think through her/his own role while children are engaged in group activities

5. Use of universal design principles to create accessible learning classes. (Details in unit 3)

- Using the principles Universal Design for Learning (UDL) through three distinct curriculum access points: content, process and product.
- Content of lesson or unit concerns what is taught or what we want students to learn, know and do. Process of instruction concerns how students go about making sense of what they are learning. And products showing student success is how students demonstrate what has been learned (Tomlinson, 1995).

Use of Assistive Technology and devices

Teachers should ensure that children with disabilities access to need-based assistive devices and technology, which provides for maximum participation in social and educational environments. E.g ICT, communication aids mobility aids learning aids such as braille abacus etc. Use of assistive technology devices, many students can become an important part of a regular classroom.

6. Reducing barriers within learning environments

- All education partners work together to identify and reduce barriers within the curriculum

7. High expectations for all learners including children with disabilities.

- Creating a culture of high expectations begins with an accessible curriculum and meaningful and relevant learning experiences. It is essential that the teachers and families act on the idea, with the right instructional supports, every learner can be successful

NCF 2005 is directed towards developing inclusive teaching learning process and meaningful experience for children, along with an effort to move away from a textbook culture. It emphasizes the fundamental change in how we think of learners and the process of learning. It focuses on ‘Child-centered’ pedagogy which means giving primacy to children’s experiences, their voices, and their active participation. This kind of pedagogy requires teachers to plan learning in keeping with children’s psychological development, interest and
also sociological background. NCF also states that learning is active and social in its character.

2.4 Teacher as a Facilitator

The role of teacher is changing from teaching to active learning methodologies. Now teacher is as a facilitator in learning. Teaching and learning are being modified due to innovations in education. Therefore as a teacher one needs to understand the teacher's role in changing learning environment.

Teachers very well recognize the word teaching. Teachers know the meaning of this word and know how to perform teaching. Sometimes they do not know the difference between teaching and facilitating in learning which creates distance between the learner's and teachers. As teachers it becomes essential to understand the difference between “teaching” and “facilitating in learning” because the both words are correlated with each other. Teaching generally is one way approach where the teacher would be emphasising sharing or giving information whereas in facilitating one has to enable the learner in using his experience in participation in learning encouraging student oriented learning process through active and participative approach.

National Curriculum Framework requires a teacher to be a facilitator of children’s learning in a manner that helps children to construct knowledge and meaning. The teacher in this process is a co-constructor of knowledge. It also opens out possibilities for the teacher to participate in the development of syllabi, textbooks and learning resources. Hence the teachers need to have an understanding of curriculum, subject-content and pedagogy, on the one hand, and the community and school structures and management, on the other. Teachers need to be creators of knowledge and thinking professionals. They need to be empowered to recognize and value what children learn from their home, social and cultural environment and to create opportunities for children to discover, learn and develop. They have to build on what the child knows which is based on his or her experience to unknown thus enabling learning outcomes. With all the above, it also becomes important to picture rise a versatile teacher who could stimulate and develop a personality in learners which is socially relevant and functionally important. Such versatile teachers need to develop facilitating skills know different principles of pedagogy.

2.4.1 Qualities of the Facilitator

1. Building from Known to unknown: To take the learner from known to unknown which calls for construction of knowledge which is based on their home surroundings society and exposure that they have to the environment.
2. Make learners aware: Ensure the learners is aware of the purpose of the lesson in a simple and practical manner this can be both useful and motivating to students.
3. Develop participation: Involvement of learners in making decisions sometimes. For example, you can sometimes ask if they prefer to do an activity in class or at home, together or individually, in writing or through conversation with a partner.
4. Beyond classroom: Generally there is a mentality among learners that they are only doing things because “it is necessary for the exam” or “because my teacher told me to”. As a teacher one has to go beyond classroom by linking our classroom learning to the real world can help students see the relevance of what they are learning. Likewise, bringing the world into our classrooms can be very motivating.
This can, of course, include field trips and research projects that involve students in observation, interviews and sourcing for their own information, but these are very time-consuming and not feasible for our everyday teaching.

5. **Good observer:** Need to observe or watch carefully how learners respond and participate in the classroom teaching learning process, who is speaking and how they are doing things. Attention needs to be given not only to the product but also to the process. Not only what they get done but how they are getting it done.

6. **Good listener:** To hear if the learner gives you the answer you want but also to hear how they give their answers and in what ways they do or do not understand. Try standing next to a group of students so that you are at an angle rather than “face on”. Turn your eyes away but turn your ears toward your students. You can discover quite a bit about what your students are or are not learning by paying close attention to what happens while they are working. In order to be a good observer and a good listener be closer to the learners.

7. **Provide timely intervention:** As the facilitator, intervention is needed to give direct feedback to let students know they are on the wrong track, but it especially means asking and answering questions. Asking questions can be particularly useful if they are open-ended questions which encourage thinking rather than questions that have only one right/wrong answer. Another very useful type of question is the one that “turns it back” to the students. Rather than answering immediately, you can ask if someone else in the group or in the class has an idea. Timely intervention can also mean giving compliments which not only makes the students “feel good” but also lets them know they are meeting the lesson goals. In this case, positive reinforcement is not only motivating but it also has a classroom management function.

8. **Plan and prepare well:** Planning and preparing as a facilitator is essential which requires thinking about the learning activities and materials in new ways – not in terms of how just “delivering the lesson” – but in terms of how the learners can understand appropriately and what you need to do to help make that happen

### From Teaching to Facilitating

<table>
<thead>
<tr>
<th>Teaching</th>
<th>Facilitating</th>
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<tbody>
<tr>
<td>Starting with preset curriculum</td>
<td>Means considering issues identified by group and new ideas.</td>
</tr>
<tr>
<td>Providing information in one direction</td>
<td>means starting by assessing the group</td>
</tr>
<tr>
<td>A process whereby a teacher leads a group of students in acquiring new</td>
<td>Initiates active learning, means using practical, participatory methods</td>
</tr>
<tr>
<td>skills, knowledge, or understanding.</td>
<td></td>
</tr>
<tr>
<td>Most subject area teaching involves telling and teaching the students.</td>
<td>Involves helping the students to discover by themselves</td>
</tr>
<tr>
<td>outcome at the end.</td>
<td></td>
</tr>
<tr>
<td>Means the right answer</td>
<td>Encouraging and valuing different views</td>
</tr>
<tr>
<td>Involves telling other people instead of letting people figure out from</td>
<td>Means asking instead of answering questions yourself</td>
</tr>
<tr>
<td>themselves</td>
<td></td>
</tr>
<tr>
<td>Class room as one group</td>
<td>Learner as a unique entity</td>
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If teacher think that every learners should be sound in her or his subject it is the duty that
teaching-learning process become innovative, active and interesting. In our classrooms teachers have to change his attitude about from just teaching to facilitating and enable the learning process based on the children’s need and back ground.

2.5 Teacher as a reflector

“Teachers teach what they know, they educate what they are.” This proverb suggests that more than any other profession, education and teaching require the whole being of the teacher to be engaged with the life and learning of their learners.

Teaching is a profession and teacher education is a process of professional preparation of teachers. Preparing one for a profession is an arduous task and it involves action from multiple fronts and perspectives. Teachers are concerned, in an important way, with the total development of learner’s from the human development perspective – physical, intellectual, emotional, social, moral and spiritual. The dimensions of teaching other than the informational and cognitive may have been neglected in modern times due to a variety of factors, one cannot deny that they constitute an integral part of the teachers’ role and functions. The implication of this is to give due emphasis to developing reflective teachers with positive attitudes, values and perspective, along with skills for the craft of teaching.

Reflection is a process includes reviewing, reconstructing, re-enacting, and critically analyzing one’s own teaching abilities and then grouping these reflected explanations into evidence of changes that need to be made to become a better teacher (DSERT hand book for teacher educators) This is what a teacher does when he or she looks back at the teaching and learning that has occurred–reconstructs, re-enacts, and recaptures the events, the emotions, and the accomplishments. Reflection is an important part of professional development. All teachers must learn to observe outcomes and determine the reasons for success or failure. Through reflection, teachers focus on their concerns, come to better understand their own teaching behavior, and help themselves or colleagues improve as teachers. Reflective practice assists teachers to confront contradictions between their thinking and their practice, and promote a conceptual change in teachers’ views about teaching which is an vital in developing inclusive pedagogy for teachers. Teachers’ pedagogical thinking informs their decision-making and behaviours in teaching situations.

The contemporary development in teacher education has highlighted the need for self-identity, human relationships, assumptions, beliefs and attitudes in the teacher. The necessity for greater insight into one’s aims of life, one’s strengths and weaknesses and the dynamics of identity formation provides the base for developing a professionally competent teacher who is sensitive to issues of equity, democracy and social justice. The goal of inclusive education is to develop an environment which values all learners and provides opportunity for all and develop a society for all where teachers play a crucial role in bring about the social change and ensure social justice.

Reflective practice is more than a self-awareness process in which we pause and think back after something has happened. The moment we start reflecting upon a situation, we naturally begin to raise questions on ‘how that happened?’, ‘Why it happened that way?’, ‘Could it be different?’ Reflective practice in teaching shifts from thinking about a sequence of chronological events to purposeful thinking in order to identify how to improve specific learning situations specially from the context of diverse learners and meeting the specific needs of children with diverse abilities.
2.5.1 Need to incorporate in teacher education program.

Teacher education programs at all stages need to provide opportunities to teachers for understanding the self and others, develop sensibilities and the capacity to reflect. They should also provide ample opportunities to observe and engage with learners and learn to work collaboratively in groups. There needs to be adequate provision in the curriculum for critical content engagement and the development of professional capacities in inclusive pedagogy, observation, drama, craft, story-telling and reflective enquiry.

Critical observation and reflective analysis of the practice of teaching are part of developing reflective practice which also develops teachers capacity to undertake action research. Action research is a means for reflective analysis and exploring learning and solutions for developing inclusive practice. Action research can contribute in a major way to enhance the quality of teaching learning and professional development of teachers.

2.5.2 Attributes of Reflective Teacher

- Discover and develop open-mindedness, the attitude of a self-motivated learner, having self-knowledge and self-restraint.
- Develop the capacity for sensitivity, effective communication skills and ways to establish harmony in their teaching environment.
- Facilitate personal growth and social skills in their own learners.

Developing Reflective Practices

Many studies have revealed that using art form such as theatre creative drama are an effective way for understanding oneself reflect on the beliefs faiths because these often provide non-threatening and non-judgmental learning environments that enable the participants to reflect on their own positions in society with ease, besides recognising one’s own strengths and limitations and developing social sensitivity; and the capacity to listen and empathise. Use of art education in teacher development is to address the curricular goals of “imagination,” “communication,” and “reflection” means that the arts lose their purely aesthetic orientation and become involved in sensitizing teachers to their own communicative potential, the formation of teacher self-identity, and the challenges of inclusive classroom.

According to broader goals of NCF (2005), and NCFTE (2009), Arts Education will sensitise student teachers towards:
- Multiple ways of seeing: nurture multiple intelligences in the classroom, and acknowledging cultural, social, linguistic, and learning diversities in the classroom.
- Connecting education to life: validate the real experiences and emotions of teachers and learners, create self-knowledge, and “localise” education.
- Creating experiences that will yield classroom application: using the arts to enable effective content communication and open up the possibilities of creative and critical thinking among learners.

Therefore, as a teacher who are engaged in a process of self-understanding and begin to take responsibility for their own learning as also the learning of their students. Such self-understanding would involve critical reflection on factors that have shaped one’s identity.
and personality, an awareness of one’s thought patterns, motivations and behaviour, and openness to learn and renew oneself: there are various methods to encourage reflection through wiring or conversations, individually or in pair or group reflection, or a combination of these. The way that people capture their reflections is largely dependent on: their own learning style; their discipline – whether they are in a predominantly written-oriented, performance oriented or oral discipline; and what resources they happen to have at hand at the time.

For practical reasons, most people capture their reflections in written forms such as diaries, post-it notes on lesson plans, journals, portfolio materials, poetry, sometimes short stories, novels or books. However, some capture reflections in dance, some in drama, some in song. Scholars have reminded of the quality of journal writing for reflection on teaching, and how reflective they actually are. Writing journals should be sustained in the course of time and on-off type of writing does not ensure that learning has occurred from the reflective process.

- Journal writing by student-teachers to reflect on significant experiences and periodically process their observations and thoughts on life situations, with comments.
- Reflecting on your experiences which helped you to learn something new or understanding where there is a need to improve.
- To enable student-teachers to recall and reflect on their own educational journeys and become conscious of factors that have shaped their aspirations and expectations.

2.6 Networking and collaboration with stakeholders

Collaboration is critically important in the process of putting inclusive education into action in the most effective and efficient way. It is important for the teachers and head masters of school to appreciate the value of teamwork with specific reference to inclusive education who are the stakeholders for its successful implementation.

One of the major reasons why a general schoolteacher resists inclusive education set-ups is that teachers are usually left alone in the classroom with multiple roles to be played. While policy provisions immediately add to the diversity amongst learners, but on the other side human and material resources are developed at a much slower pace. Under such situations, the teacher’s unpreparedness often leads to a feeling of helplessness and incompetence.

Collaboration for Inclusion: It may be difficult for an individual regular schoolteacher to manage all the aspects of inclusive planning all alone, it will be of significance that they are aware of the needs for teamwork and collaboration. For inclusive education to be successful, teamwork need to be developed with other stakeholders in the education system and other human resources at the community level. Collaborations are built at a systemic level; however, a responsive teacher can initiate the process of building partnerships and gradually mobilise others around herself/himself. Partnerships with the following is essential:

- Other teachers
- Cluster resource person & block resource persons
- Medical professionals/para professionals
- Inclusive education resource teacher/special educator
- Organization working with children with disabilities
- Parents, siblings
2.6.1 Characteristics of Effective Teacher Collaboration

- **It is voluntary.** Teachers must choose to collaborate.
- **It requires parity among participants,** thereby ensuring that everyone’s contributions are valued equally.
- **It depends on shared responsibility for key decision making.** Teachers may divide their activities and areas of responsibility when engaged in collaborative activities; however, each one is an equal partner in making the fundamental decisions about the activities they are undertaking.
- **It requires accountability for student outcomes.** This characteristic follows directly from accountability for the results of their decisions, whether those results are positive or negative.
- **It relies on sharing of resources** (time, expertise, space, equipment). Each teacher participating in a collaborative effort contributes towards developing learning resources or support in terms of other resources as equipment’s devices for children with disabilities.
- **Although inclusive schools tend to be beneficial for all those involved, it is critical to iron out any existing systemic barriers for inclusion of children.**

The key to successful change is the improvement in relationships between all involved and not simply the imposition of top down reform. The new emphasis through educational change is based on creating the conditions to develop the ‘capacity’ of both organisations and individuals to learn. Collaboration can be seen as consisting of both organisational aspects as well as inter-personal aspects. The focus moves away from an emphasis on structural change towards changing the culture of classrooms and schools, an emphasis on relationships and values

Inclusion of children with disabilities can only become a reality when general and special educators collaborate to provide ‘transfer of skills’ to ensure effective learning (academic and social) for all children with disabilities (Singh 2009). Thus need for a collaborative partnership between general and special education is imperative for student success. Successfully including all students, including those with a range of disabilities, in general education schools and classrooms means changes for all members of the educational community: changes in characteristics of students in their classrooms, changes in the way curriculum is interpreted, and changes in professional and personal relationships. These transformations do not come easily and their genesis is in each individual and fundamental philosophy and attitude about the education of individuals with diverse learning needs. Recent school expectations reflect a concern for breaking the barriers created by general and special education to develop a cohesive system. There have been initiatives under the preservice education in Karnataka to develop collaboration among the educationist and special educators to develop resource centres at the DIET and block level (Banerjee R &. Ramachandra M 2015) If teaching is challenging, collaborating is even more so.


IE resource centre was developed as a part of the UNICEF DSERT project by RVEC & Seva-in-Action, Bengaluru. The objective of the developing the resource centre was to
develop inclusive learning resources for the preservice and in service teacher education programmes conducted by DIET to provide the teachers with ideas and opportunities to create inclusive resources which can be used for developing inclusive classroom practices. There was a series of workshop conducted at the DIET to develop learning resources for subjects as language, maths, environment science and science. These resources were created by a team of regular teachers, special educators of different disabilities, BRC teacher educators and professions from inclusive education and education. The resources were field tested in some of the government schools of Bengaluru The outcome was a set of different types of resources for primary school teachers.

### 2.6.2 Strategies for Collaboration

The following framework for meaningful collaboration can be used when co-planning:

- **Cluster level sharing meetings but differentiated roles:** Cluster level sharing meeting Needs to be tapped for sharing about the needs and barriers faced by these children and discuss strategies for overcoming them.

- **Interventions, lesson plan, and predictions:** the team should come up with interventions or instructional methods to address the question or purpose as well as the desired and realistic predicted outcomes all students/individuals involved. Lessons and interventions (including behavioural plans) must be differentiated and universally designed for all students in the class from the onset, in contrast to being modified after general education teachers plan the lesson and “share” it with other professionals.

- **Teacher to teacher networking and developing support systems.** In the prevailing situation of elementary education there is a need to develop multiple associations for inclusive education to be successful as it may be difficult for an individual regular school teacher to manage all learners keeping in view their diverse back grounds and needs.

- **Collaboration for developing learning resources**

  There is dearth of learning resources when it comes to inclusive learning resources for different subjects at primary or higher primary school. Creating learning resources is an important part for developing lesson plans developing learning resources in collaboration with special educators classroom teacher and teacher educators helps in developing inclusive practices.

  It would be ideal to develop Support system based at School, Cluster, Block and District in order to provide a range of support services to ordinary schools for success of inclusive education.

The teachers must look at inclusive education as an approach to improve the quality of education by bringing about systemic reforms in school education. S/he can initiate the process of building collaborations/partnerships with all stake holders (children, parents, families, teachers, volunteers from the community, educational officials,
Youth leaders, Women Self- help groups, Disabled people group, community leaders, religious leaders, local government representatives, etc.) to accomplish inclusion of children with disabilities in mainstream schools. Each one of them can play a key role in implementation of IE and gradually these collaborations can be built at systemic level.

2.7 Strengthening qualities for Inclusive Teacher

The Right of Persons with Disabilities Act (RPD, 2016) is a landmark Act that mandates inclusion at different level of education system which has great significance and implications to the education sector. Regular teachers would play a pivotal role in implementing inclusive education to meet the educational and social needs of learners with varying abilities including children with disabilities. The teachers are now required to strengthen their skills and competencies from the perspective of developing inclusive practices at school and classroom level besides to facilitate learning for children with diverse needs and disabilities, providing support to learners through collaboration with special educators, parents and other stakeholders of education besides working outside the traditional subject limitations with a sensitive approach.

Over the years with implementation of IE under the Govt. of India project and programs like DPEP, SSA it has been observed that there is a need to develop certain competencies which is important for implementing inclusive education effectively. Teachers need to have the following competencies to strengthen qualities for Inclusive Teacher:-
1. Sensitivity towards learners with diverse abilities/ disabilities and avoid labelling.
2. Inclusive Classroom management
3. Understanding the significance of Collaboration
4. Skills for Inclusive Assessment and evaluation
5. Knowledge of Assistive Technology and Assistive devices
6. Awareness regarding stereotypes and myths about disabilities

2.7.1 Sensitivity

Sensitivity towards the need of children with disabilities is an important skill to understand the child and develop significant social relations between learners. Particularly for children with disabilities and their parents. The teacher should have the right attitude, but also needs good understanding of how to develop these interactions and relationships. Teachers understanding of the child can enable them to develop effective teaching learning process besides mobilizing necessary resources for developing equitable learning opportunities

2.7.2 Inclusive Classroom Management

The diversity in the classrooms presents a range of management encounters for school teachers. For example, differently abled learners with autism spectrum disorder (ASD), intellectual disabilities may present unique behavioural challenges for these teachers. An inclusive teacher needs to be equipped not only to teach but also to understand the students and the community of parents so that children are regular in schools and learn. Teaching learning process which develops an inclusive learning environment is the first steps for the teacher.
Labelling of children is one of the major attitudinal barrier towards children with disabilities. There is a tendency of identifying with their disabilities rather than their name of the child. As an inclusive teacher you need to keep in mind when talking and writing about people with disabilities, remember to put “people” first. The disability comes second. It is important to see the person before his/her disability. Need to avoid categorizing people with disabilities as either super-achievers use words that are non-judgmental, non-emotional, and are accurate descriptions e.g “brave,” “courageous,” “inspirational” or similar words to describe a person with a disability. Remember that the majority of people with disabilities have similar aspirations as the rest of the population, and that words and images should enable their inclusion in society.

2.7.3 Collaboration

Friend and Cook (2010) define teamwork/collaboration as an interactive process that enables people with diverse expertise to produce creative solutions to commonly defined problems. An ever increasing diversity in the classrooms has made it necessary for regular classroom teachers to work with special education teachers, school psychologists, para-professionals (such as speech and language therapists, occupational therapists, physiotherapists, recreational therapists etc.) parents of students with disabilities. The joint effort in dealing with the challenges and creating solutions would enhance the chances of the success of the programme or the course. Teacher works as a catalyst between the principal of the school and children with special needs and their parents. It is the teacher who sees new and innovative ways in order to fulfill the educational, social and emotional need of child with special needs. Whatever may be the type of resource room the teacher with her commitment, skill and knowledge can redesign it into useful, creative and interesting. One of the main roles is to support the teacher in meeting the needs of children with special needs.

2.7.4 Evaluation & Assessment

Mc Loughlin & Lewis, (2001) state that regular school teachers are required to exhibit competency in assessment in order to identify the specific needs of differently abled students. The process of using testing and other formal and informal means of evaluation to make educational decisions, is one of the most vital skills for a regular classroom teacher to have in the implementation of inclusive education programs. The teacher has to employ both, basic skills such as gathering, learning and background information of differently abled students Shukla & Singh (2011) suggested that a flexible and implementable scheme of Continuous and Comprehensive Evaluation (CCE) assumes evaluation as a routine activities and exercise of teaching learning process and it includes all aspects of pupil’s growth such as intellectual, physical, personal- qualities, social, interests, attitudes and values through using a variety of tools and techniques by a teacher.

2.7.5 Assistive Technology & Assistive devices

There are various kinds of assistive technologies, ranging from instructional material aids, seating and positioning aids, and sensory aids. The other assistive technology application areas are aids for daily living, communication and augmentative communication tools, environmental control systems, leisure time or recreational adaptations, mobility aids, prosthetics and orthotics, and vehicle modifications. When considering the level of the technology, consider the levels of how the assistive technology devices or services could be applied into the classroom environment. Are the items personally, developmentally, or
instructionally necessary. Assistive technology allows students with special needs to access physical environments, be mobile, communicate effectively, access computers, and enhance functional skills that may be difficult without the use of technology. For students with multiple disabilities involving severe communication difficulties, augmentative and alternative communication devices are essential. Speech synthesizers, Braille-to-print conversion, and speech devices can significantly facilitate students’ learning.

2.7.6 Awareness regarding Myths and Realities.

Teachers must aware about the myths and realities about disabilities in order to help the families and enable meaningful support to children. Following are

<table>
<thead>
<tr>
<th>Myths</th>
<th>Realities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabilities can be cured by doctors, specialists, quacks, sadhus,</td>
<td>Not curable and tehmphasize should be on the potentials and strengths and</td>
</tr>
<tr>
<td>tantriks, It is karma</td>
<td>provide with early intervention education and rehabilitation services</td>
</tr>
<tr>
<td>Children with disabilities have limited capacities. Their capacity</td>
<td>The capacity of a person with a disability evolves with time, exposure,</td>
</tr>
<tr>
<td>does not grow</td>
<td>education, interaction, participation, acceptance and providing with an</td>
</tr>
<tr>
<td></td>
<td>inclusive environment in the community and school,</td>
</tr>
<tr>
<td>The child with a disability is different from other children and</td>
<td>Every child is different. It is impossible to nd a class of students, all</td>
</tr>
<tr>
<td>cannot be included in mainstream schools. Impossible! What will</td>
<td>with similar skills, talents, interests and academic abilities. Children</td>
</tr>
<tr>
<td>she/he do in the class?”</td>
<td>with disabilities have the right to go to mainstream schools, where teachers</td>
</tr>
<tr>
<td></td>
<td>receive training regarding different teaching techniques, assistive</td>
</tr>
<tr>
<td></td>
<td>devices and adaptations that will help all children</td>
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</tbody>
</table>

Characteristic of Inclusive Teacher

- Accepts IE as good teaching
- Provides flexibility for learning in their pace
- Recognizes children’s learning abilities
- Applies child centered Approach
- Develops Inclusive learning process
- Valuing diversity as a Resource
- Acknowledges that all children have the ability to learn
2.8 Summary

1. Classroom are both an academic and social context, as it provides a setting for interaction dialogue and the opportunity to appreciate the diversity which contribute towards equal opportunities and development of an eco-system for inclusive education.

2. Important principles of inclusive teaching-learning process are
   - Respecting learners with different abilities and value, diverse talents,
   - Recognizing and responding to the specific need of children with disabilities,
   - Creating learning friendly environment which facilitates learning for ALL children including children with disabilities,
   - Using of flexible approach based on the child’s learning pace and style,
   - Use of universal design principles to create accessible classes,
   - Use of Assistive technology for meeting the specific needs of children with disabilities,
   - Reducing barriers within learning environments,
   - High expectations for all learners including children with disabilities.

3. Teacher’s play a key role in nurturing the child’s development and education therefore they also have to be a facilitator for learning to nurture the child’s development.

4. Teachers role are changing from teaching to active learning approaches.

5. Three Attributes of Reflective Teacher are i) Discover and develop open-mindedness, the attitude of a self-motivated learner, having self-knowledge and self-restraint. ii) Develop the capacity for sensitivity, effective communication skills and ways to establish harmony in their teaching environment. iii) Facilitate personal growth and social skills in their own learners.

6. Reflective practice enables professional development and strengthens teachers capacity for developing inclusive practices.

7. The three most important aspect that needs to be remembered for developing teaching learning processes for ALL children what is taught (content), how it is taught (method), how the children learn best (process), and how it relates to the life experiences of the children and the environment in which they live and learn.

8. Strengthening of qualities of Inclusive teacher largely depends on the teachers’ sensitivity towards learners with disabilities, creating an inclusive learning environment making appropriate resources available to them.

9. Inclusion of children with disabilities can only become a reality when general and special educators collaborate to provide ‘transfer of skills’ to ensure effective learning (academic and social) for all children with disabilities.

10. Collaboration with different stake holders of education is critically important in the process of putting inclusive education into action in the most effective and efficient way.

2.9 Experiential Learning:

1. Reflect on the two case studies make two columns list out the characteristics of the inclusive teacher and the other of a traditional teacher.

Classroom A
Fifty children are sitting on the floor with their bags as a desk and books in front of them. The teacher starts reading from the book of Grade 3 textbook in between she would write some difficult words. The boys, who are sitting on the right side of the room, copy what the teacher has written into their exercise books. The girls, who are sitting on the left side of the room, wait for the teacher to move so that they can see what she has written and copy it into their exercise books the teacher asks, ”Are you copying the story that I am writing?” Everyone answers, ”Yes, teacher”. After reading out she would ask the question to children...
sitting in the front row and if the child does not answer exactly the way it is written in the book she would say the answer is wrong.

**Classroom B**
Two groups of children are sitting on the floor in two circles. Both groups consist of girls and boys. The Grade 3 teacher is teaching shapes to the children. In one group, the children are talking about circles. The teacher has shown them some common round objects that she had asked the children to bring from home. The children handle the objects and then work together to make a list of other objects that are circular in shape. In the other group, some of the children are holding rolled up newspapers that look like long sticks. The teacher calls a number, and the child with that number places her stick on the floor in the centre to begin forming a square. One child with hearing difficulties adds her stick to form a triangle and smiles at the teacher. The teacher smiles back at her and says “very good,” making sure that the child can see her lips as she speaks. A parent, who has volunteered to be a classroom helper for a week, pats her on the arm, and then turns to assist a student who is confused about where to place his stick in order to form a new shape.

2. Observe a classroom and list the existing teaching learning process of the teacher’s and suggest how this could be developed into Inclusive strategy.
3. Observe and Analyze two sessions of teacher centered and children centered learning environments. Make a Report

2.10 Check your Progress

1. What are the basic principles of inclusive teaching learning process.
2. What are the different strategies for developing inclusive pedagogy as a teacher.
3. What are the essential components of an inclusive classroom dynamics
4. What are the different methods for developing reflective practices in a teacher.
5. List out the traits of a teacher as facilitator
6. List out 5 characteristics showing the difference between a traditional teacher and teacher as a facilitator.
7. What are the different strategies for collaboration in developing inclusive pedagogy.
8. List out the myths and realities about children with disabilities.
9. List out the different competencies for strengthening qualities of inclusive teacher.
10. List out the competencies for strengthening qualities for inclusive teacher.

2.11 Assignment for Self-Evaluation

- Writing a reflective essay of aspirations and expectations of an inclusive teacher based on one’s learning.

2.12 Tutor Marked Assignments

1. Explain the principles and practice of inclusive teaching learning methods.
2. Explain the need and strategies for collaboration in developing inclusive practices.
3. Write the difference between teaching and facilitating

2.13 References

Ahuja, A and Els Heijnen.(2012). *Understanding Inclusion: Resource Material for Teacher*

James A. McLoughlin, Rena B. Lewis, Assessing Students with Special Needs, 5th Edition, Cleveland State University, San Diego State University, Pearson USA


Online Reference


Unit 3: Universal Design for Learning (UDL) and Inclusive methodologies

3.1 Objectives
After going through this unit, you will be able to:
• Understand the concept of universal design for learning (UDL) in the context of inclusive education.
• Develop implementation plan of UDL in classroom;
• Develop teaching plan
• Develop evaluation strategies based on UDL
• Recognize the significance of assistive technology for developing UDL;

3.2 Introduction
At the present time, the field of special education is confronting the challenge of calls for greater inclusion of individuals with disabilities into all aspects of society, especially educational programs. In order to implement inclusion of Children With disabilities (CWDs in regular classroom, it is one of the greatest challenges for today’s teachers is how to ensure that all of their students have access to and success with general education, or classroom, curriculum.

Today’s classroom is of student diversity which includes students with varying abilities, disabilities, different learning needs and preferences and to ensure that all students are successful with general/regular education curriculum, teachers have to look at the possible ways to so that they provide access to curriculum. The general/regular curriculum is a overall plan for instruction that has been adapted by a school or a school system, which NCERT (National Council of Education and Research) is very well doing the task for better acceptance and learning. The main purpose of any general education curriculum is to guide instructional activities and provide consistency of goals, content, instructional methods and outcomes that give opportunities for all students to interact with the curriculum in order to learn. There should be enough opportunities for student with special needs to access, participate, and progress within the curriculum of general/regular school. The landmark Rights of Persons with Disability Act (2016) supports the initiative to ensure access to the curriculum of general/regular for learners with disabilities. Keeping this in view in order to
Teach All, an arrangement is required in the today’s classroom, which is filled with a diverse range of students. A useful approach may be found in Universal Design for Learning (UDL).

### 3.3 Universal Design for Learning in Inclusive Setup

Education is a right which must be made available to all on equal terms. Students’ diversities of 21st century classroom highlight the need of implementing curricular frameworks that foster instructional strategies and inclusive practices suitable for every child in the classroom. With growing movement toward serving all learners in the general education classroom that student with special needs to be involved with and progress in the general education curriculum. Teachers are finding ways to adapt curriculum, modify instructional strategies and assess students in ways that permit them to demonstrate their mastery of what they have been taught. The solution for all above is the emerging best practice of **Universal Design for Learning** mostly known by acronym UDL. It offers a new way of thinking about creating multiple learning opportunities in every area of course design. It offers such a framework for designing educational environments that enhance inclusive settings.

#### 3.3.1 Universal Design for Learning

Universal design for learning is an approach to tutor minimizes barriers and maximizes learning for all students. Each learner in the classroom has his/her own background, preferences, strengths, needs and interests. Curriculum should provide genuine learning opportunities for each and every student. Now let’s think about the word *learning*, neurosciences tell us, our brain has three broad networks one for recognition, the *what* of learning; one for skills and strategies, the *how* of learning and one for caring and prioritizing the *why* of learning.

In 1950s the movement towards barrier-free design began to gain momentum in U.S. At that time, wheelchair ramps, audio systems, automatic doors and other adaptation helped reduce barriers for people with physical limitations. People envisioned products and structures that could be used by everyone, without expensive or unsightly adaptations, setting the stage for universal design (Central for Universal Design.n.d.).

Ron Mace, the founder of universal design described his philosophy as “the design of product and environment to be usable by our people, to the greatest extent possible, without the need for adaptation or specialized design”. From the 1960s to the turn of the 21st century, significant legislation was passed to protect the rise of people with disabilities. These laws influenced the adaptation of universal design as architects realized the aesthetic, financial and humanitarian benefits of building design that work for everyone.

In 1984, a group of education, researcher and clinician founded the Centre for Applied Special Technology (CAST), researchers explored how education could be individualized through a flexible approach teaching methods and materials, which they call universal design for learning. Their work also developed alternatives that could not only reduce barriers for individuals with special needs, but would also enhance learning for all students. In the early 1990, Centre for Applied Special Technology (CAST) developed the principles and practices of UDL; which means a scientifically valid framework for guiding educational practice that (1) provide
flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and (2) reduces barriers in instructions, provides appropriate accommodations, supports and challenges, and maintains high achievement expectations for all students, including students with special needs and those students who are limited English proficient.

### 3.3.2 Principles of Universal Design for Learning

UDL is based on the principles of neuroscience that reflects and supports many of findings in brain based researches. Brain based research studies on multiple intelligences, learning styles, and differentiated instructions, reveals that there are no regular students and we all learn in different ways and may perform differently in different environments. CAST has suggested a three part framework which includes recognition networks, strategic networks and affective networks. The below given figure-1 explains the part and purpose.

![fig:1 source: www.cast.org](https://www.cast.org)

Recognition networks identifies pattern in the brain, the ability to store information is seemingly unlimited. However, it first needs to be able to gather and receive the information through a sensory channel before it can file it. Initially, the learner needs to gather and name things that will be going into these file folders. Interaction occurs as the learner’s looks for the ways to receive and interpret information. This involves attention, memory and perception. For example, the learner who has more difficulty with visual processing which occurs in the (occipital lobe) receive may best his/her information through sound/speech (temporal lobe). Knowing this, teachers can think about presenting lessons that allows for flexible accessibility. Recognition network refers to as the “what” of learning.

Strategic networks are located in the frontal lobe in the anterior half of the brain. The learner uses this network to construct his/her own meaning to information i.e received and to sort and classify it. If we think about the file cabinet analogy, the learners begins to get organized with his/her thinking by describing, summarizing, reporting, expressing, retelling, as he/she puts labels on the folders and begins to fill them up. Eventually the learner identifies the patterns and makes connections between information i.e. receive and perceived by sequencing, comparing, showing, and investigating. The learner is processing his/her experience, accepting new encounters, and fitting them into his/her existing filing system. Affective network system looks at
the engagement or social interaction of the learner.

The principles underline UDL frameworks are:

i) **Multiple Means of Representations** to support recognition learning which give learners various ways to acquire information and knowledge. This is the ‘what’ of teaching and learning. The teacher needs to present information and content in different ways to be comprehended by all.

ii) **Provide Multiple Means of Engagement** which supports affective learning to tap into learners interests, offer appropriate challenges and motivate them to learn. This is the ‘why’ of the learning. The teacher here needs to stimulate interest and create motivation for learning, so that maximum indulgence is present.

iii) **Multiple Means of Actions and Expressions** to support strategic learning which give learners alternative of demonstrating what they know, it is the ‘how’ of the teaching and learning. Planning and performing tasks are executed here. The teacher needs to differentiate the ways that learner can express what they know and understand.

What do curriculum, Instruction, environment and assessment provide?

<table>
<thead>
<tr>
<th>Multiple Means of Representation (what)</th>
<th>Multiple Means of Engagement (why)</th>
<th>Multiple Means of Action &amp; Expression (how)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Here it offers flexibility in ways of</td>
<td>Here it offers flexibility in ways</td>
<td>Here it offers flexibility in ways</td>
</tr>
<tr>
<td>• Presenting, receiving &amp; interpreting information/content (to assess &amp; build connections)</td>
<td>• Customizing the affective network system in learning to increase participation</td>
<td>• How learners respond to information presented</td>
</tr>
<tr>
<td>• Adapting for different languages, learning styles, multiple intelligence, cognitive stages of development, sensory needs, perceptual differences, social needs</td>
<td>• Adjusting for student interests &amp; cultural backgrounds</td>
<td>• Providing output format that can be change easily to accommodate preferred means of control (perceptual, sensory, motor control)</td>
</tr>
<tr>
<td>• Adjusting the complexity of materials presented (customizing content)</td>
<td>• Arranging the environment for variety in grouping, arrangements, individual work and access technology and other materials</td>
<td>• Using different strategic systems</td>
</tr>
<tr>
<td>• Adjusting environment so all can see, hear &amp;</td>
<td>• Using human resources and the classroom and school</td>
<td>• Identifying areas of strength and needs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assessing knowledge of content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tracking progress of</td>
</tr>
</tbody>
</table>

Three Essential Qualities of Universal Design for Learning- The 3-M’s of UDL
Source: R.Orkwis, Universally Designed Instruction
3.3.3 Universal Design for Learning and Differentiated Instruction

Universal design for learning supports differentiated instruction. Differentiation means knowing your learner thoroughly well, doing whatever it takes to maximize learning, its whole-class method of instruction approach. The purpose of differentiation of instruction helps differentiating for each learner is to ensure that learners are each being challenged with work that is challenging but not too difficult, and to help each learner become an independent learner. This also helps to prepare learners to handle anything in their current and a future life that is not differentiated in turn helps them to become their own learning advocates.

Once teacher knows their learners skills and knowledge levels, interests and preferred learning styles, one can combine that with essential understandings, skills and objectives that a teacher want their learners to achieve in planning differentiated lessons. Three Basic Components of differentiated instructions (DI) are:

- **Content**- What the teacher plans to teach;
- **Process**- Why the teacher chooses particular method, strategy, or approach to teach content/skills to a given set of learners
- **Product**- how students respond to information presented and how the students will be assessed

The figure below displays a differentiation graphics from Rutherford (2002), which is a simple ways to illustrate how instruction can be differentiated in a vast number ways. Each graphic represents

**Differentiating Instruction**

Provide a range of & choices in- Sources, Process, Products

Provide a balance of Instruction &learning- Whole-class, Small-Group, Individual

Variables to include in grouping and other Instructional decisions- Readiness, Interests, Information Processing Styles

Courtesy: Differentiating instruction 3x3 from Instruction for All Students by Paula Rutherford.
3.4 Implementation of UDL in Classroom

Universal Design for Learning (UDL) is an approach to teaching aimed at meeting the needs of every learner in a classroom. It can be helpful for all kids, including kids with learning and attention issues, disabilities or diverse learners; but UDL takes careful planning by teachers. It is the practice of embedding flexible strategies into the curriculum during the planning process so that all (diverse learners) learners can access a variety of learning solutions.

In order to incorporate the principles of UDL into lesson planning, it requires relooking at curriculum by starting with manageable curriculum unit; be clear in the goals of the lesson and on what learners need to do to mastery; determining the instructional barriers for a range of the learners and what tools would help them to overcome; and identifying more flexible methods, materials and assessments. Here are just a few examples of how UDL can work in a classroom.

1. Display the Goal
   Forming goals and displaying goals helps learners to know what they are working to achieve. That is why goals are always made apparent in a UDL classroom. One example of posting goals for specific lessons in the classroom. Learners might also write down or insert lesson goals in their note books. The instructor refers to lesson goals during the lesson itself.

2. Option for Assignments
   Commonly in a classroom, there may have only one ways for a learner to complete an assignment, which can be an essay or a worksheet. With universal design for learning, there are multiple ways and options. For example, learners may be able to create a video or a digital audio file (make available as a podcast) to show what s/he knows. The learner may even be allowed to draw a comic strips or sketches or posters. There are thousands of possibilities for completing assignments, as long as learners meet the lesson goals.

3. Flexible Space for work
   Flexibility in the learning environment is what Universal Design for Learning (UDL) promotes and supports; which is why in a UDL classroom, there are flexible work spaces for learners. This includes spaces for quiet individual work, small and large group work, and group instruction. If learners need to tune out noise, they can choose to wear ear-plugs, ear-buds or ear-phones/headsets during independent work.

4. Regularity in Feedback
   With Universal Design for Learning, learners can get feedback often every day, on how learners are doing. At the end of a lesson, teachers may talk with individual learners about lesson goals. Learners are encouraged to reflect on the choices they made in the class and whether learner met the goals. If learners did not meet the goals, they are encouraged to think about what might have helped them to do so.

5. Use of Technology, Digital and Audio Text
   In a Universal Design for Learning (UDL) classroom concept materials are accessible for all types of learners as UDL recognizes that if learners can’t access information, they can’t learn it. Learners should have many options for reading, including print, digital, text to speech and audio-books. For digital text, there are also options for text enlargement, along with choices for screen color and contrast; videos with captions, and transcripts for audios.
The UDL solutions table re-examining instructional strategies customizing UDL solution
tables to match teacher’s instructional activities and the range of learners in the classroom.

<table>
<thead>
<tr>
<th>Instructional Activities</th>
<th>Challenges of some learners</th>
<th>UDL Solutions Methods &amp; Materials that offers multiple means of Representation: Engagement: Action &amp;Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed Reading Materials</td>
<td>Learner has difficulty comprehending vocabulary Learner cannot see small text Learner cannot decode at grade level</td>
<td></td>
</tr>
<tr>
<td>Whole Class Presentation</td>
<td>Learner has difficulty comprehending material content Learner is distractible misses information Learner has difficulty processing verbal information</td>
<td></td>
</tr>
<tr>
<td>Writing Assignment</td>
<td>Learner struggles with spelling, Learner has difficulty with written language Learner cannot outline and organize ideas Learner cannot handwrite legibly</td>
<td></td>
</tr>
<tr>
<td>Assessment</td>
<td>Learner cannot read questions Learner cannot retrieve key contents vocabulary with ease Learner needs test taking preparation</td>
<td></td>
</tr>
<tr>
<td>Organizational Skills/Work Habits</td>
<td>Learner has difficulty understanding and sequencing task Learner has difficulty in staying on task Learner has difficulty completing home works Learner is reluctant in asking help</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>Learner has difficulty with organizing Learner may not be able to abstract important content</td>
<td></td>
</tr>
<tr>
<td>Oral Report</td>
<td>Learners has speech difficulty Learner has difficulty presenting orally in front of peers</td>
<td></td>
</tr>
<tr>
<td>Drawing</td>
<td>Learner cannot draw to represent objects or math/science projects</td>
<td></td>
</tr>
<tr>
<td>Group Project</td>
<td>Learner has difficulty in interacting with peers</td>
<td></td>
</tr>
</tbody>
</table>
Teachers need to learn to create flexible digital materials; needs to attend in-school and out-school training on tools available in the school; use of internet to locate curriculum based specific digital materials; listing of inventory of digital materials. Increase awareness of universal design for learning principles at your school; make a commitment as a school authority to make curriculum materials more flexible; support school team collaboration to share the work to move toward a more universally designed curriculum; its required to be seen ways to increase classroom computers at your school.

The school administrators can make universal design for learning a part of the school improvement plan; support the development of a universal for design learning leadership team; conduct “universal design for learning walks” to look for good uses of instructional technology; the school authority can direct staff members to develop individualized universal design for learning plans; appreciate or recognize staff for applications of universal design for learning based emails, at staff meetings; encourage the use of teacher ePortfolios and peer coaching; in staff meetings, before and after school timings, support staff with 10 minute tech tips; identify ways to increase computers in classrooms.

UDL principles and guidelines are not step-by-step instruction. Instead, they serve as more of a frame work or philosophy that can guide educators in developing and executing the goal of making learning more accessible for all students, whether they have learning or physical disabilities or simply like to learn things visually. To offer educators some practical steps, it is required to ask universal designed pros and innovative districts to share the ways that every classroom can incorporate UDL into its lessons. So in first case, Start Small means transition to UDL should be gradual and one need not to apply every single guideline to every single lesson. It depends on which ones are relevant to learners learning goals. In second case Engage Everybody, here intention is to make teachers understand that while redefining a lesson for UDL does not require latest app or tech but educators can brainstorm ways to incorporate music, video, trips outdoors, clay modeling etc. the intention here to stimulate every type of learners regardless of type of individual support they might require.

3.5 Development of Teaching Plan

While developing teaching plan instructors/teachers needs to follow the steps for Lesson Plans. Lesson plan are tools to help educators/teachers structure, plan, and organize a lesson. Applying universal design for learning principles to lesson plans includes using active learning strategies, accessible documents and presentations, and providing students with the resources and strategies they need to be successful. Creating a lesson plan using universal design for learning principles helps you meet multiple learning styles, needs, and preferences. It helps you reach more students in your classroom and create an inclusive classroom where all students benefit.

Following are the steps involved for curriculum planning:

Step:1 Set Goals of curriculum planning, it is recommend that teachers establish the context for instruction. Context is usually based on country or of state standards, followed by the design of goals for the instructional episode. It is recommended that all teachers closely evaluate these to assure alignment and assure that the means for attaining the goals are separated from the goals and standards.
Step: 2 Analyze the Current Status of the instructional period while planning UDL based lesson plans. What are the current methodologies, assessments, and materials used to teach the lesson? Analyze the teaching procedures with regards to potential barriers of learners in the classroom. Whether all learners have access to the materials? Are learners able to express themselves with the current methods and materials? There are a number of resources and tools available to analyze lessons in the planning for all learners toolkit.

Step: 3 Apply UDL to the Lesson/Unit, which includes the goals, methods, assessments and materials used to implement the lesson. Prepare the UDL lesson plan, grounded in the learning goals, classroom profile, methods and assessment, and materials and tools. Then, collect and organize materials that support the UDL lesson.

Step: 4 Teach the UDL Lesson/Unit, which means to minimize barriers and realize the strengths and challenges of each learners, rely on effective teaching practices, and apply challenges appropriate for each learner. In this way, teachers/instructors can engage more learners and help all learners’ progress. When teaching and evaluating learners work, also evaluate and revise the lesson/unit to assure learner access and success.
Tiers of Instruction & Support

**Lesson Objectives(s):**
The students will know the concept of numbers from 1 to 9

**Assessment(s):**

**SCS Math Correlation:**

---

One sample of lesson plan done for better understanding of teachers

**Instructors:** XYZ  
**Subject:** Math-Magic  
**Grade:** Class I  
**Reference:** Textbook in Mathematics for Class I (NCERT)

---

### Preplanning Activities:

<table>
<thead>
<tr>
<th>Lesson Element</th>
<th>Procedures</th>
<th>Time</th>
<th>What is the teacher doing?</th>
<th>What are the students doing?</th>
<th>Materials</th>
</tr>
</thead>
</table>
| **Lesson Setup & Lesson Opening** | i) Warm up with simple exercise like raise your one hand, raise your both hands etc  
ii) Set up expectation for today’s work. Tell students we will recite a Rhyme  
iii) Objective: | 5 min | Giving Directions | Following teacher’s instructions | Display Chart |
<p>| | | | Talking about the Objectives | Listening to the teacher | Computer with projector |</p>
<table>
<thead>
<tr>
<th>Lesson Body</th>
<th>To learn about numbers 1-9</th>
<th>15 min</th>
<th>Show real object&lt;br&gt;Write symbol 1 in the white board with color marker as well as speak the word O-N-E like this</th>
<th>Student will observe</th>
<th>White board with color marker</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity 1:</strong>&lt;br&gt;Mixing real object with number card</td>
<td>Teacher Input&lt;br&gt;Activity 1: Mixing real object with number card</td>
<td>15 min</td>
<td><strong>Activity 2:</strong>&lt;br&gt;Arranging Flash Card (Mixing 1-9)&lt;br&gt;<strong>Activity 3:</strong> Match Object with Number</td>
<td><strong>Activity 2:</strong>&lt;br&gt;Arranging Flash Card (Mixing 1-9)&lt;br&gt;<strong>Activity 3:</strong> Match Object with Number</td>
<td><strong>Activity 2:</strong>&lt;br&gt;Arranging Flash Card (Mixing 1-9)&lt;br&gt;<strong>Activity 3:</strong> Match Object with Number</td>
</tr>
<tr>
<td><strong>Extended Practice</strong></td>
<td>Students stand in a circle and recite the rhyme One, One, one, One baby eating a bun</td>
<td>10 min</td>
<td>Tell the students to make a circle and recite rhyme. Give clay to make 1,2,3,etc.</td>
<td>Student will follow the instruction</td>
<td>Clay</td>
</tr>
<tr>
<td><strong>Lesson Closing</strong></td>
<td>Ask students to summarize what they learned about numbers 1-9</td>
<td>5 min</td>
<td>Questioning questions, Solving problems in Worksheets, Writing next day homework</td>
<td>Answering questions, Solving problems in Worksheets, Writing next day homework</td>
<td>Worksheets&lt;br&gt;Note-books</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**UDL Key: Representation; Engagement: Expression**

**Possible UDL Applications for Extension**

**Representation**

**Low-Tech:** Display numbers 1-9 in the chart along with pictures, Recite Rhyme One, One, One, One little baby eating a bun. Show real objects e.g. 1 apple,2 pens,3 crayons. Show 1 object with the word O-N-E. Use Sign Language for SWHI, Nemeth Code for SWVI, Flash Card for SWASD, Large Print for SWLV

**High-Tech:** Use projector and show a short video clip
### Engagement

| Low-Tech: | Allow the students to recite the rhyme that Teacher represents. Give clay to the students to make the model of 1,2,3… Ask the students to stand in a line and Jump 1 time, jump 2 times, Jump 3 times like that. Ask the students to show their own body parts---show me 1 finger, show me 2 fingers…Ask the students to pick up numbers from a bowl |
| High-Tech: | Show video on clay modeling |

### Expression

| Low-Tech: | Seeking Individual verbal responses from the students by asking like how many eyes you have? How many nose you have? How many fingers you have in your both hands etc.etc. Allow the students to express their knowledge through Drawing, Sign language, Dance, Acting etc. etc. |
| High-Tech: | Allow the students to draw and paint in Microsoft Paint |

#### Tier III
A few students will be able to comprehend the concept the numbers with the assistance of CAI. They will be more helpful by the VAKT process of learning.

#### Tier II
Some students will know the numbers by matching object with object.

#### Tier I
All students will know the concept of numbers from 1 to 9

### Possible Barriers:

| Students have difficulty copying from White board | Possible Solution: Watching PPT |
| Some students have Language problem | Possible Solution: Using Sign Language |
| Some students may have problem in mixing with large group | Possible Solution: Break down into small group |
| Student cannot sit for a required period of time | Possible Solution: Allow to do Action Rhyme, Jumping 1 time, 2 times and so on |
SAMPLE WORKSHEETS

The goal which teacher has set in the beginning should be clear, flexible, measurable, attainable, results oriented, and time bound. While planning considering learners variability is important. Assess the readiness levels, skills and needs of your learners and the challenges of the learning environment. Anticipation of learning gaps and barriers which may distract, frustrates, or confuses learners. Here it is important to determine what scaffolds are needed.

Determining of appropriate assessment is again important. One need to choose appropriate assessments that provide meaningful information, is flexible, and assesses individual student growth. Selection of methods, materials and media are some of the assistance requires in order addressing learner variability like scaffolds, supports, accommodations and modifications, choosing methods, materials and media that offer flexibility and relevance and balance assistance with challenge. In order to teach and observe learning put all together and deliver UDL lesson and assess student learning with flexible, informative assessments matched to the learning goals. Through self-reflection refinement of educators learning is received and review of data from assessments; observations can be listed. Whether the learner achieved the goal, did it worked well? and what differently next time can be incorporated in the lesson for maximum learning?
3.6 Evaluation Strategies Based on Universal Design for Learning

An evaluation strategy includes assessment and evaluation. All assessment should start from goal, considering the type of standards whether content standards or method standards. In content standards learners actually have to know-independent of what they can write, read, perform, etc. this is the knowledge they need to have before they can apply it. Whereas in methods standards learners actually have to focus on specific tasks such as writing, solving an algebraic equation, reading, performing a piece of music, etc.

What is an Assessment? As per Dr. David Rose, CAST, “learning expertise cannot be measured simply by evaluating competencies and outcomes at a single point in time because learning is a process of continual change and growth”.

Formative Assessment is done for the purpose of informing future instructional design. And the purpose of assessment is to increase quality whereas purpose of evaluation is to judge quality.

Formative vs Summative Assessments: The goal of formative assessment is to monitor learner learning to provide ongoing feedback that can be used by instructors to improve their teaching and by the learners to improve their learning. More specifically, a formative assessment helps learners identify their strengths and weaknesses and target areas that need to be worked; helps faculty recognize where learners are struggling and address problems immediately. It also evaluates the quality for future instructional design.

The goal of summative assessment is to evaluate learners learning at the end of an instructional unit by comparing it against some standards. Examples of summative assessments include: quarterly papers, midterm exams/half yearly exams, final projects.
High-quality formative assessment practice can take many forms, but it must always perform the followings: emphasizes the quality rather than the quantity of student work; values giving advice and guidance over giving grades; avoids comparing students in favor of individual students assessing their own learning; fosters dialogue that explores understandings vs. lectures that present information; encourages multiple iterations of an assessment cycle, each focused on a few issues; provides feedback that engenders motivation and leads to improvement. Formative assessments should be developed using the principles of universal design for learning to minimize the effect of the assessments’ physical, sensory, learning, cognitive, or language barriers that may interfere with the accuracy of the assessment.

This means educators need to offer students multiple, equally valid, assessment options to demonstrate their understanding of a learning target. For example, if a teacher is assessing progress toward creating a persuasive argument in a social studies classroom, instead of requiring a quick write, he or she could offer students a choice of composition tools such as written text, recorded speech, images and audio or video to complete the assessment. Providing students the opportunity to choose the method that works best for them, removes the barriers often inherent in requiring just one method (e.g. quick write only, may result in barriers to expressing understanding due to poor spelling, typing, writing etc).

Formative assessments are a great way to identify student misconceptions and the learning barriers that students are experiencing. When teachers analyze the assessment data, they should look for student strengths and gaps in understanding. It’s important to note, that the cause of the gaps may be different for each learner. For example, if students are struggling with subtracting fractions, one student may be having difficulty with place value, while another one student might be having difficulty with the steps of the operations, while another still could be having difficulty with the abstract concept of what a fraction represents. Understanding what got in the way of learning the material is essential to identifying which instructional activities will be the most beneficial for each student. In our example, some students will benefit from math manipulative such as fraction bars, while another student would benefit from watching an expert solve the problem, while still another would benefit from solving guided practice problems with immediate feedback. With this in mind, teachers can offer a variety of options so that all of their learners are successful.

When summative assessment is designed within the UDL framework, student data is gathered using a variety of materials and methods, both when presenting assessment information to students and when students show what they know. In strong UDL classrooms a variety of formative and summative assessments are used by the learner throughout the learning cycle.

UDL assessments are also free of unnecessary requirements that interfere with the student’s ability to demonstrate content knowledge. For example, good UDL science or social studies assessments use simple directions or offer a text to speech option so that test items can be read aloud, thereby reducing reading barriers so students can focus on the science or social studies content being assessed. Removing performance barriers while maintaining the relevant construct of the content is a hallmark of UDL assessment. Summative assessment, similar to formative assessment, is a process. It is used to infer the level of individual student learning related to the mastery of specific content standards. Products like essays, projects and tests, and processes such as observations and conferences are some common tools used to gather the evidence needed for teachers to be able to infer mastery.

Below is an example for an Advanced Composition course. The three main objectives are
represented in the orange boxes, while the modes for demonstrating competency in them fall below.

Universal Designed for Learning Options in formative assessment can be interview, peer interview, demonstration/performance, diagram, writing, mapping/Planning/Organizing. Plan leave class with your plan for addressing the data from your previous lesson. What will you do next week/class? Sort into three piles/groups, set criteria for each group before sorting. Based on your piles/groups determine your plan by following ways:

- Reteach to the whole group?
- Reteach to part of the group?
- Extension for part of the group?
- Peer tutoring?

Feedback can help in formative assessment. Telling learners how they did, where they are, where they need to go, and how to get there is the “formative” part of formative assessment. Feedbacks like have students assess their own learning; have students compare their own assessment to your assessment; making them to answer whether the assessments matches? Why/why not? Collaboratively planning for mastery is also important. One needs to give him/herself a standard procedural that allows for flexibility, but allows you to quickly conceptualize your planning with formative assessment options in mind. Development of UDL based assessment tool box is appropriate.

3.7 Use of Technology in Universal Design for Learning

As we know technology is providing opportunities in order to realize potential in the world. Technology provides the flexibility needed to adjust to learner differences. Also, effective teachers should be creative and resourceful in designing flexible learning environments that address the variability of learners using a range of high-tech and low-tech solutions. It is also important to point out that simply using technology in the classroom should not be considered implementation of UDL.
In fact, many teachers are unsure as to whether they can actually implement Universal Design for Learning (UDL) as they have limited access to technology or limited fluency in its use. Also, some teachers wonder whether technology is central to UDL or whether UDL is a pedagogical framework that goes beyond technology. In other words, is UDL about technology, or about teaching? But a teacher who is dedicated and committed will always find ways to design curriculum that meets the needs of all learners, whether they are using technology or not. Also, powerful digital technologies applied using UDL principles enable easier and more effective customization of curricula for learners. Learning and demonstrating effective uses of technology is itself an important instructional outcome. Technology has permeated all aspects of our economy and culture. Every learner now in school needs a range of illiteracies that are much broader and more inclusive of our changing culture. Further an understanding of these technologies leads to a greater understanding of the possible non-tech options that can be utilized. However advances in technology and the learning sciences have made “on-the-fly” individualization of curricula possible in practical, cost-effective ways, and many of these technologies have built in supports, scaffolds, and challenges to help learners understand, navigate, and engage with the learning environment. Precisely, technology is not synonymous with UDL, but it does play a valuable role in its implementation and conceptualization. The basic role of assistive technology is that it enhances an individual’s strength so that his or abilities counterbalance the effort of any disabilities and it provides an alternate mode of performing a task so that disabilities are compensated. Assistive technology is not a luxury rather necessity to achieve everyday tasks to reach one’s dreams and aspirations.

3.7.1 Definition of Assistive Technology

The definitions of Assistive Technology device is any item or a piece of equipment or product system that is used to increase, maintain, or to improve functional capabilities of diverse learners. The services that directly assists an individual with a disability in the selection, acquisition or use of an assistive technology device.

Assistive technology assists and supports all type of learners. Assistive Technology can be sub-divided into the following common categories:
1. Daily Living aids
2. Communication aids.
3. Environmental aids
4. Sensory aids
5. Mobility and transportation aids
6. Computer access aids
7. Teaching and learning aids
8. Leisure, sports and recreation aids
9. Ergonomic aids
10. Seating and positioning aids.

The table below given explains the categories and assistive devices and their examples
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Categories</th>
<th>Examples</th>
<th>Type of Materials</th>
<th>Improved Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Daily Living aids</td>
<td>Picture schedules, Dressing stick, zipper pull, button hook</td>
<td>Adapted bathing aids, Adapted cooking and eating utensils</td>
<td>Appliances which will help increasing participation in cooking, bathing, taking care of personal hygiene, dressing and toilet aids</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>Communication aids.</td>
<td>Picture communication boards, Single message switches</td>
<td>Multiple message outputs, Communication software</td>
<td>Assist individuals in language and communication tasks, involve in conversation with a friend, communicating needs, sharing &amp; exchanging information, talking over a phone. Selection of choices from a communication boards etc.</td>
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<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td>3.</td>
<td>Environmental aids</td>
<td>Switch-operated appliances, Automatic doors</td>
<td>Adapted door knobs, Swimming pool lift</td>
<td>Assists in reducing or physical eliminate barriers individuals with disabilities, helps to turn small appliances on or off with their voices or single switch, hand access staplers etc</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.</td>
<td>Sensory aids</td>
<td>Personal Amplification system, Braille Transcription</td>
<td>Screen magnifiers, Audio-books</td>
<td>To minimize challenges taking printed material &amp; recording it onto audiotapes or taking text and printing it from Braille output device. Access to audio information, converting information into a text based format, personal amplification system etc</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Mobility &amp; transportation aids</td>
<td>Standing and walking devices, Scooters</td>
<td>Wheel chairs, Transfer aids</td>
<td>This assists in independent movement of learner with disabilities within their class rooms, school environments as a whole, barrier free environment which works for all, everyone can benefit from aisle; Boosts self-confidence.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Computer access aids</td>
<td>Screen readers, Eye-gazed system</td>
<td>Alternative &amp; adaptive mice and keyboards, Voice recognition software, and on-screen keyboards</td>
<td>This helps individuals to interact, access, productively use a computer</td>
</tr>
</tbody>
</table>

Block-2: Pedagogy for Inclusive Education
<table>
<thead>
<tr>
<th>7.</th>
<th>Teaching and learning aids</th>
<th>Graphic organizers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Word prediction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>software</td>
</tr>
<tr>
<td>8.</td>
<td>Leisure, sports and recreation aids</td>
<td>Modified sports equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adapted video games</td>
</tr>
<tr>
<td>9.</td>
<td>Ergonomic aids</td>
<td>Adjustable tables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wrist/arm support</td>
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<tr>
<td></td>
<td></td>
<td>Adapted furniture</td>
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<td></td>
<td></td>
<td>Adjustable lighting</td>
</tr>
<tr>
<td>10.</td>
<td>Seating and positioning aids.</td>
<td>Support cushions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or braces chairlifts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seat wedges</td>
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<td></td>
<td></td>
<td>Standing tables</td>
</tr>
</tbody>
</table>

Assistant technologies a key to accessing the general education curriculum by using learning or educational technologies. They are used to teach learners essential skills needed in content areas which include matching, associations, reasoning, decision making, and problem solving. The primary purpose of assistive technology is to maximize and individuals ability in completing a task by minimizing barriers and unleashing potential to achieve desired outcomes. There are three basic categories of assistive technology; 1) no tech, 2) low tech, 3) high tech. It involves strategies such as extended time and chunking the information or task into manageable components. Low technology solutions involves simple technology such as slanted writing boards, adapted pencil grips, specialized lined paper, step by step picture reminder, tape recorder, and/or printed labels with essential vocabulary. High tech solution typically involves the computer or has its own computer components. Specialized software and advanced hardware devices falls into this category. No tech can be a service dogs, low tech is magnifying glass, tape can be medium tech and computer will be high tech.

The other assistive technology includes digital technology too. The term ‘digital’ technology usually invokes visions of computers - which is certainly one mode for accessing digital context. Digital media also include mobile devices, such as cell phones, gaming technology, social media, and data analytics. Once text is digital, it can be displayed in several ways. Content can be displayed using a variety of media - onscreen, or via speech, graphic images, video, animation, simulations, or any combinations of these. Digital text can also be translated and transformed (e.g., text-to-speech, speech-to-text, text-to-American Sign Language (ASL), text-to-Braille). This not only addresses the learners with disabilities but also to other diverse learners present in the class. Researches have shown results of improvement in learners other than disabilities.
UDL has been associated with digital technology for good reason: the power and flexibility of digital technology greatly enhances the ability to individualize and customize the learning experience. Digital technologies allow for variability among learners and learning environments and encourage flexibility. An obvious advantage of digital technologies is that the presentation of content can be altered in a variety of ways to suit individual needs and interests (e.g., changes in type face, font size, font color, sound volume, presentation rate). Also, the difficulty of information can be altered: images can be turned on or off and main ideas can be highlighted.

### 3.7.2 Learning & Innovative Technology

Designing and careful planning of learning environment and necessary learning tools makes learning active and play very essential role for learner success. Innovative technology will further play the role of catalyst for actively involving learners in learning process. Technology provides learners with an environment that encourages collaborations, problem solving, role playing, and the development of critical thinking skills. Technology provides a multiple means of how a learner can approach, engage, and complete the learning task. In this era of multimedia world, learners now seek out multimedia learning formats. Such might include radio, television, newspaper, magazines, billboards, text messaging, phone messages etc.

Some of the innovative technologies used in today’s classroom include social software tools (interactive white boards, blogs, wikis etc), and visual media literacy tools (concept maps, info murals, cartoons, digital storytelling, graphing calculators, geo-spatial technologies, personal digital assistants and use of MP3 files or podcasting, webinar). This enables learners to acquire new knowledge through authentic learning experiences. Innovative technologies are critical for learning in the 21st century.

### 3.8 Summary

- The term universal design was coined in the field of architecture in response to the vision of an architect with physical disability.
- Universal Design for Learning (UDL) evolved from universal design principles. It has been found to benefit learners with diverse set of needs.
- UDL researchers describe three processes in the brain that are connected to learning. First, information is gathered through the sense (recognition system). Then it is organized and cross-referenced using strategic systems. The affective system drives the emotional/social side of learning, which can move learning into long-term memory.
- The three essential qualities of Universal Design for Learning are multiple means of representation, multiple means of engagement, and multiple means of action and expressions. If teachers and school can provide flexibility in terms of these qualities, learners can be empowered.
- Universal Design for Learning and differentiated instruction share common elements.
- Teachers use ongoing formative assessment to identify learners strengths and needs, set goals, monitor learners growth, and inform/guide instruction.
- Summative assessments can be the culminating assessment of a learner project or unit of the study.
• Applying UDL principles to assessment using high and low technology tools and programs fosters accessibility/participation for all learners.
• Authentic and alternative assessments should be used to assess and communicate learners strength, needs and progress for all learners

3.9 Experiential Learning

1. Develop a poster for regular classroom teacher for implementing UDL
2. Prepare a chart for the different technology that can be used for preparing UDL in a classroom.
3. Select any lesson of Class 4 and apply UDL principles for teaching in the classroom.
4. Prepare a worksheet for the teacher based on UDL for Maths for any class of your choice.

3.10 Check Your Progress

1. Write in your words, how you can implement UDL in your classroom?
2. Explain Universal Design for Learning (UDL) based lesson plan?
3. Briefly discuss the development of a teaching plan?
4. What do you understand by Universal Design?
5. Explain Universal Design for Learning (UDL)?
6. Briefly discuss the three essential qualities of UDL?
7. Define Differentiated Instruction (DI) and its role in UDL classroom?
8. List down all types of assistive technology can be used in your classroom to implement UDL?
9. Explain importance of technology in UDL?
10. Briefly discuss innovative technology you can plan for your classroom to implement UDL?

3.11 Unit End Assignment:

1. Where do you see other examples of Universal design in your own experiences? Do these examples benefit only people with special needs or do the benefit extend to others? Explain.
2. Explain the three essential qualities of Universal Design for Learning might impact teaching and learning in today’s classrooms?
3. Explain the principles of multiple means of representation and provide examples?

3.12 Assignment for Self-Evaluation

1. List all types and levels of engagement, representation and action & expression during learning?
2. Draw the flow chart of UDL planning for a lesson?

3.13 References


**Unit 4: Developing Inclusive Learning Friendly Environment**

4.1 Objectives
4.2 Introduction
4.3 Meaning of Inclusive learning friendly environment
4.4 Elements of ILFE
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4.1 Objectives:

After going through this unit, you will be able to:
- Understand the meaning of inclusive learning friendly environment (ILFE) from the perspective of inclusive education.
- Understand the elements for developing ILFE
- Identify the barriers which hinders learning for children with disabilities and means of overcoming.
- Develop skills to create inclusive learning environments for effective participation and learning of CWSN
- Understand the importance of working with the community.

4.2 Introduction

Education policies, schemes and projects such as IEDC & IEDSS, DPEP, SSA and the recent landmark Act RTE 2009, has played a significant role in bringing about inclusion of children with disabilities in the education system. It is not enough if we just enroll all children in schools but we need to provide quality education and achieve learning outcomes. Inclusive Learning Friendly Environment (ILFE) is an approach to develop an environment in the education ecosystem for including all children including children with disabilities which has been developed by UNESCO to facilitate inclusion of children with diverse needs. It means teachers have the responsibility to create a learning environment which provides with equitable opportunities for participating and achieving learning outcomes. A learning friendly class room provides the space and pace for all children to learn besides creates an environment which nurtures their potentials and values their abilities. It is the place where every child would like to come and participate in various activities and learning processes. Inclusive learning environment acknowledges that all children have the ability to learn, recognises that children’s learning abilities vary, and supports development of educational methods and teaching aids to meet the educational needs of all children. Schools need to recognise and take into account the diverse needs of their pupils, adapt to different styles and rhythm of teaching and provide quality education through the appropriate use of resources, school organisation, study plans as well as partnership with the community.
One important concept that we must all accept is that “All Children Are Different,” and all have an equal right to education, no matter what their background or ability. (UNESCO 2011) With the school system moving towards “inclusive education” where children with diverse backgrounds and abilities are sought out and encouraged to attend ordinary schools. It is becomes imperative to create an inclusive learning friendly environment so that it increases the opportunities of children with diverse abilities/disabilities to learn and interact with other children. Improving their learning also promotes their participation in family and community life.

4.3 Meaning of Inclusive learning environment (ILFE)

An inclusive learning environment means we make it possible for ALL children from different background and abilities to participate and achieve learning outcomes which includes children with disabilities. It means teachers have the responsibility to create a learning environment which provides with equitable opportunities for participating and learning in the classroom. A learning friendly class room provides the space and pace for all children to learn and be a part of the school community. It is the place where every child is valued and provided with a friendly environment. It is the place where every child would like to come and participate in various activities and learning processes. Such a class room should make efforts to understand the child’s needs specially if they are facing difficulty in the learning process

4.3.1 Meaning of “INCLUSIVE”

According to UNESCO Inclusive means including ALL children who have been left out or unable to access education due to human diversity or children with disabilities or other disadvantaged groups such as SC/ST gender religious minority. “Inclusive” also means that as teachers, we have the responsibility to enable inclusion of children with disabilities and mobilize all available support (from school and education system, the community, families, children besides other resources at community level)

Inclusive education is based on the following beliefs:
- The right to education is a basic right for all children
- Every child matters and has unique needs and potentials
- All children can learn and have the right to belong to mainstream society and therefore the ‘regular’ schools
- It is the responsibility of the education system to understand the barriers of learning, recognise diverse needs of children and cater to them
- An inclusive learning environment improves the quality of learning for all children and not only those who have been previously marginalized or excluded
- Involvement of parents and community matters in ensuring inclusive education

4.3.2 Meaning of “Learning-Friendly environment”

Learning-friend implies that the child or the learner is the focus of the learning process. A learning-friendly environment is one in which the child only is not learning, but is benefitting from the learning of the teacher and the school system when they respond to the specific needs of the learner. For instance, a learning-friendly environment gives children a chance to participate in their learning. It also is an environment in which teachers get an opportunity to
learn, in which they use and adapt new teaching methods, and in which parents and community members are actively encouraged to participate in helping their children to learn.

Over the years schools are working to become “child-friendly,” where children have the right to learn based on their fullest potential within a welcoming environment with the aim of improving child’s participation and learning in school, rather than focusing on examinations. “Child-friendly” is very important, but it is not complete without teachers also learning with the child to understand the child’s need its background and create a mutually joyful learning environment. As teachers we learn new things about the world to teach our students. We learn to teach more effectively—and enjoyably—so that all students learn how to read or do mathematics, and we learn new things from our students as well. A “learning-friendly” environment is “child-friendly” and “teacher-friendly” (UNESCO). It stresses the importance of students and teachers learning together as a learning community. It places children at the centre of learning and encourages their active participation in learning. It also fulfils our needs and interests as teachers, so that we want to, and are capable of, giving children the best education possible.

Teachers play an important role in nurturing the child’s potential. Children come to school to learn, but at the same time teachers, are also learning, too when they dealing with children from different backgrounds and different abilities. As teachers you also learn new things about the world to teach the learners. We learn to teach more effectively—and enjoyably—so that all children learn how to read or do mathematics, and we learn new things from our students as well. It stresses the importance of students and teachers learning together as a learning community. It places children at the centre of learning and encourages their active participation in learning. It also fulfils the objectives and interests as teachers, so that we want to, and are capable of, giving children the best education possible.

4.4 Elements of ILFE

All children can learn, without regard to their physical, intellectual or sensory disabilities. With so many differences, children need to learn in a variety of ways—not just by copying information from the chalkboard onto a slate or into a notebook. Children need to learn by observing and talking to experienced and practising teachers families of children with disabilities and community members.

4.4.1 Elements of an inclusive learning environment?

An ILFE teaches children life skills and healthy lifestyles so that they can make informed decisions
1. An inclusive and child-friendly classroom does not discriminate, exclude or marginalize any child based on gender, socio-economic background, religion, language, abilities or disabilities etc. This means that:
   a. No child is refused enrolment and right to attend classes for whatever reason
   b. Boys and girls have equal learning opportunities
   c. Children are all treated the same with respect

2. An inclusive and child-friendly classroom is effective with children, facilitates and supports education of good quality and is learner friendly. This means that:
   a. Teachers think about the best interest of each child, when deciding on learning activities.
b. Teachers try to adjust the standard curriculum to the learning needs of the students

c. Teachers are facilitators for the children’s learning and for actively participate in the learning process to make meaningful for their daily lives. Learning helps children to develop new aspirations as their knowledge grows, and the can work towards a future life which is meaningful.

3. An inclusive and child-friendly classroom is healthy for children. This means that:
   a. What happens in the classroom, also, promotes children’s health
   b. Classrooms/schools are clean, safe and have adequate water and sanitation facilities
   c. There are written policies and regular practices that promote good health
   d. Health education and life skills are integrated in the curriculum and the teaching-learning activities.

4. An inclusive and child-friendly classroom is caring and protective of all children. This means that:
   a. Children are secure and protected from harm and abuse
   b. Children are encouraged to care for each other
   c. No physical or mental punishment is used with children
   d. There are clear guidelines for conduct between teachers and students and among students (and no bullying is allowed)

5. An inclusive and child-friendly classroom involves families and communities. This means that:
   a. Parents are invited and consulted about the learning of their children
   b. Teachers and parents work together to help children learn better in school and at home
   c. Teacher and parents, together, care about the children’s health, nutrition and safety—also on the way to and from school
   d. Parents and community members are invited for school-community project activities

6. An ILFE also considers our needs, interests, and desires as teachers and promotes opportunities for teachers to learn and benefit from that learning

7. Culturally sensitive, celebrates differences, and stimulates learning for ALL children. Besides encourages teachers and head masters of school, children, families, and communities to help children to learn within the classroom and outside of

8. Inclusive, Learning-Friendly Environment based on a shared vision and values of how children should work and play together. They believe that education needs to be inclusive, have the same rights and opportunities for children with disabilities and non-discriminatory, sensitive to all cultures, as well as relevant to the daily lives of children and their families. Teachers, administrators, and students respect and celebrate the diversity and different abilities of children

4.4.2 Important components of Inclusive learning friendly environment.

Relationship with children: Teacher develops a friendly rapport with children and is sensitive to the specific needs of children e.g making a child with hearing impaired to sit here she can see the teacher and the board. Providing peer support to visual impaired child etc. Students are encouraged to ask questions to clarify understanding;
Composition of the Classroom: Teacher, children with diverse abilities, parent or volunteer, special educator.

Seating Arrangements: Seating arrangement is an key factor in the learning process of where you make the child seat in rows or semi-circle to enable proximity and participation of all children. Especially keeping in mind children with disabilities. Such as hearing impaired children and children with visual impairment so that they can see the board and the teacher clearly a child or hear clearly a child with intellectual disabilities can be provided with adequate attention by the teacher.

Learning: Strategies for active engagement through a range of different styles are used at various points throughout lessons; and Active learning approach which creates links with prior knowledge and understanding, are active and enjoyable and create success, learning is relevant to children’s daily lives;

Learning Resources: Use of Variety of materials for all subjects such as math materials made from newspapers, or posters and puppets for language class. Children can also bring resources from home to participate in the learning.

Evaluation Use of evaluation methods which is flexible to the child need e.g. for children with hearing impairment and visual impairment use of alternate methods as written instead of oral forms and oral instead of written respectively, Observation and continuous feedback.

Table for ILFE

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<td><strong>Inclusive, learning-friendly classroom</strong></td>
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It is imperative to create an inclusive friendly environment once the child is included in the school system, like teacher support, inclusive pedagogical practices, class plans, use of teaching-learning material, peer interaction, interface with parents, counseling support in order to ensure full participation of children with disabilities. Schools have been practicing inclusion for over a decade taking up various approaches and also retaining children. It is very vital to understand in the context of diversity as to how class rooms need to be made inclusive and learner friendly, how curriculum is adapted so as to enable learning of all
children in the real sense. Need for inclusive practice to be developed from the perspective of mainstream schools and curriculum rather than based on the special education practices. Need to use the resources at school and community level for meeting the learning needs of children with disabilities besides understanding the factors facilitating inclusion and the challenges involved in creating inclusive friendly environment to achieve the goal of education for ALL.

4.5 Barriers to learning in inclusive school

Barriers are difficulties which the learners faces in accessing education and schooling these barriers can be

- Physical or architectural
- Systemic -Education system
- Attitudinal barriers

4.5.1 Physical or architectural Barriers

Physical barriers are mainly due to architectural or structures which creates hindrance for children with disabilities in becoming active member of a community. These barriers are so deeply ingrained that even those who are affected may not view them as barriers but natural consequences or a result of their own shortcomings. Such examples are:

Physical barriers at school are: climbing steps, uneven ground, and furniture randomly placed or in wrong places which may act as a barrier for the orthopedically handicapped and the blind. Architectural barriers may also exist in buildings. For e.g. no easy access for wheelchair users to the building as they only have steps at the entrance of the building, no railing support and signage for children with visual impairment, etc. School managements/SDMCs should pay attention to these and arrange a barrier-free environment in the school by constructing ramps and railings to the classrooms, providing easy access to drinking water, having disabled-friendly toilets with water facility, ensuring even ground in the school premises for children, specially for children with loco-motor disability, to move around, etc. If required, they should arrange classes on the ground floor (for children with special needs) in case of a multi-storey building or make alternative arrangements.

Schools must be designed using an inclusive lens to create a barrier-free environment for children with disabilities (CWDs.) Not only must buildings incorporate ramps, but also make access to classrooms, drinking water, toilets, playgrounds, laboratories, libraries, etc easier. This can be achieved by including simple additions in the design structure such as ramps with railings, colour contrasting black boards for visual impaired and enhanced acoustics.

4.5.2 Curriculum & Systemic barriers in the education system.

One of the major barriers that CWDs face is the rigid curriculum pedagogy which focusses a certain group in the classroom and evaluation procedures which does not have much flexibility or options which generally which contribute to low transition and dropping out of the education system. Some of the other academic barriers to inclusion are: lack of awareness on the value of inclusive education, lack of knowledge and skills among teachers in dealing with diverse learners in classrooms, not giving importance to clear communication in classrooms, inappropriate classroom management, not focusing on individual needs when planning lessons for the whole class, not having supportive system for teachers to deal with
diversity in classrooms. Education system in general is ill equipped in terms of adequately trained teachers in inclusive education. IE is yet to become an integral component in the preservice education system to develop sensitivity and attitude in accepting and being responsible for education of children with disabilities. There is a need. It requires critically reflecting on and examining one’s own beliefs alongside getting equipped with the requisite concepts and skills. There is a need to develop a system of teacher education which can see through an inclusion lens, where the focus is on developing a system which will be sensitive and responsive to all learners keeping in view their diverse backgounds and overcoming the barriers which hinder education for all (Banerjee, 2012).

Rahul has an intellectual impairment. He was admitted to a special school at the age of 9 in standard 1. Despite his learning difficulties and being withdrawn, Rahul displayed a very good grasp and keenness to learn. The school team saw in him the ability to gain from a mainstream school.

Along with the parents, they identified a school that was willing to admit Rahul. An orientation was conducted by resource teacher to sensitisie the management and train the school teachers, providing inputs on teaching strategies information on concessions available, classroom management techniques with respect to toileting, placement in class, buddy system and work habits. His peer group was also sensitised.

Rahul now has a lot of friends and enjoys going to school. Interactions with his peers and teachers’ positive attitudes have resulted in Rahul’s metamorphosis from a withdrawn child to a friendly, young boy.


4.5.3 Attitudinal barriers

The biggest barrier to inclusion is usually negative attitude which primarily comes from a lack of knowledge. Many teachers believe that children with disabilities cannot cope with the regular curriculum in the mainstream classrooms as they need special and segregated set up and other children may not be comfortable being with children who look and behave differently. They feel they cannot accept the education of all children as their responsibility or as an integral part of their work, and look forward to special/resource teachers to take responsibility for children with disabilities in a separate room. There is also a strong feeling among many ‘regular’ teachers that accepting the responsibility of a child with disability will distract them from giving time to the ‘normal’ children. The problem of the disabled people is not in their disability, but in how society looks at them. In other words the disability is due to people’s attitude and environment.

What a teacher can do for children with disabilities to increase their access to school and learning potential

Children with disabilities sometimes find it difficult to get to school. Try to organize transportation to school and make school accessible by ramps, accessible toilets or other accessible depending on the needs.

When a child with a disability first comes to your school, talk with the family member who is with the child. Find out what the child’s disabilities are and what he or she can do despite the disability. Ask about any problems and difficulties that the child may have.

When the child starts school, visit the parents from time to time to discuss with them what they are doing to facilitate the child’s learning. Ask about plans for the child’s future. Find
out how you can best work with the family. Ask if the child needs to take any medicines while in school.

Make sure that the children can see and hear you when you teach. Write clearly so that they can read what you are saying. Also, let a child with a disability sit in the front of the classroom so they can see and hear better.

Find out if the child and the parents have problems about schooling. Ask if the family thinks that other school children are helpful to the child and whether the child gets on well at school.

From UNICEF. http://www.unicef.org/teachers/protection/access.htm

Narrative: Rahul has an intellectual impairment. He was admitted to a special school at the age of 9 in standard 1. Despite his learning difficulties and being withdrawn, Rahul displayed a very good grasp and keenness to learn. The school team saw in him the ability to gain from a mainstream school.

Along with the parents, they identified a school that was willing to admit Rahul. An orientation was conducted by a team of resource persons to sensitise the management and train the school teachers, providing inputs on teaching strategies information on concessions available, classroom management techniques with respect to toileting, placement in class, buddy system and work habits. His peer group was also sensitised. Rahul now has a lot of friends and enjoys going to school. Interactions with his peers and teachers’ positive attitudes have resulted in Rahul’s metamorphosis from a withdrawn child to a friendly, young boy.


4.6 Creating ILFE at school level

No child comes to school who has not learned anything at home or in their community. Whether in school or out of school, children respond to new situations in many different ways. Some of these ways will be useful in school, while others may not. It is our responsibility to find out what the child knows and what skills he or she has learned already. We can then build upon their knowledge and skills in teaching them new things. But to do this, we must closely observe our children and how they learn new ideas, skills, and values.

Children with disabilities are faced with many tasks that may be very different from the tasks that they must have done earlier e.g they may never have held a pencil before; others may never have seen a book; still others may not speak the language that you and their classmates speak. Consequently, there is a need to develop many links between what children already know and can use that learning to do the new tasks that the school and lessons require.

4.6.1 Guidelines for creating ILFE at school level.

4.6.1.1 Curriculum & Pedagogy

Lessons need to be structured around larger concept or objectives which can then fit into new information with what they already know. A big idea can be something like “water is important to life,” and the topic could be “today we will learn how to keep water clean.” We need to consider children’s developmental needs. Some children will need more time to progress than others.
To be facilitators of learning and recognize the unique characteristics of our learners. And the learning environment should support all learners. Plan activities that encourage ALL children to work as a team, such as working in pairs or small groups on relevant tasks.

**Encouraging questions** is very important for learners to be able to find the curriculum useful to them, be encouraged to ask questions and consider information, and be able to construct their own understanding of the subject matter. Open ended questions should be encouraged instead of “Yes or “No we can ask questions that end with “what do you think?” by the teacher and active discussion among learners to make learning interesting.

**Motivation.** Topics need to be meaningful and relevant to the children to make it interesting. Are they interested in what they are expected to learn. Opportunities Are the opportunities suited to the developmental level of the children? Are they appropriate for children with diverse backgrounds and abilities?

“**Meaningful learning**” means that we link what is being learned (the topic or content) and how it is taught to the everyday lives of children and their families. No one can make a child learn children will learn when they are motivated to learn. They will learn when given opportunities to learn effectively and when

- Making learning meaningful may require adapting the national curriculum to fit the local context of your school. This can be done more effectively through work with other local teachers.
- Adapting textbook activities to relate better to your local area is an good example to make learning meaningful.
- The core subjects in school are mathematics, science, and language. You can motivate children to want to learn these subjects by developing and playing games. Mathematics and language games can make learning fun as well as meaningful. If you are able to work with a group of teachers or parents, then several games can be developed for use in the classroom.
- Mathematics can be made more meaningful by using practical materials and solving problems that are common in everyday life. These problems can relate to measurements and calculations around the school, at home, or at the market.
- In science, concrete experiences help children to understand scientific concepts. In learning about science, students can practice their observation skills. They can be encouraged to ask questions and plan experiments to explore different answers to their own questions.
- By investigating their local area, children can be introduced to the role that science plays in society. They can find practical solutions to community problems while learning valuable scientific concepts and skills.
- Language is not just a subject; it is a range of skills that children need in order for them to access the curriculum and to help them think and learn. They need to be able to talk, listen, read, and write in as many situations as possible. We can develop these skills in all subjects.

4.6.1.2 **Physical Accessibility**

Ensure physical accessibility to classrooms is the most important and first step towards inclusion. Besides classrooms drinking water, toilets, playgrounds, laboratories, libraries,. This can be achieved by including simple additions in the design structure such as ramps with
railings, colour contrasting while writing in black boards for visual impaired and enhanced acoustics by placing guinea bags or any materials which can limit the noise and echo in the classroom. Ensure children with disabilities enter and move around the classroom easily.

4.6.1.3 Classroom Management:

Effective classroom management is the key to the learning of ALL children including children with disabilities. It is therefore the most important skill that you must acquire as a new teacher. Classroom management refers to the classroom environment a teacher creates to promote all aspects of children’s learning and includes the procedures, strategies, and instructional methods that teachers uses to organise individual/group learning activities besides develop children’s conduct and manage their behaviour.

Pointers for effective classroom management:

- Make sure children with special needs sit close to the teacher and the board. This is very important for children with hearing, seeing and learning difficulties. So that they can see the teachers face clearly and the teacher can also provide them with necessary support when ever required.
- Make sure the classroom has enough light to see the black board and the teacher and proper ventilation.
- Try to arrange the room so that children with visual impairment and mobility problems can move about much problems. For example, make sure that a child who uses a wheelchair or crutches can get in and out of his desk easily. Try to make him sit at the end of the row
- If you want the children to work in groups but you cannot move the desks, then get the row in front to turn around to face the row behind.
- Remember that children with hearing and visual problems will find lessons outside of the classroom more difficult to understand. Make sure such children sit very close to you.
- You can make a resource corner in the class by putting games learning resources, books for children with specific needs.
- Keep the classroom clean. Make sure all the children, including children with disabilities, involved in ensuring the cleanliness of the classroom
- To provide supportive measures for meeting their specific need (in terms of assistive technology, communication aids mobility aids and necessary teaching aids such as Braille abacus, large print books talking books) through resource teachers and other provisions of the govt.
- Peer support is an extremely important factor in facilitating inclusive classroom practices. There have been many examples and instances where inclusion has been possible due to peer support like pushing the wheel chair or assisting to go to toilets helping them to read the black board or understanding any other classroom transactions. Peer support also develops values and embibes positive attitudes towards CWSN.

4.7 Working with community and family

Mothers, fathers and other family members are also crucial to the success of an inclusive education project. They are the people who know their children, sisters or brothers with disabilities, and who may have the best understanding of both their problems and abilities. Some families will want to take an active role in their children’s education, while others will
be happy to work with other people to get the child into school. Either way, an inclusive education project will communicate with and involve them in many ways.

Parents and community members have important work to do to support the development of inclusive learning environment in the schools and classrooms as well. For instance, they can be involved to ensure that all out-of-school children are found, enrolled in school, and continue to learn well. There are distances between the school and the community but it needs to be resolved keeping in mind the parents time because they may be working or they have to go to the fields during the harvest season or they may be daily wage workers or have to take care of other children at home.

The community includes the first circle nearest to the child with disability that is parents siblings grandparents other members of their families, as well as neighbours near the school. It will also include the government system such health, rural development NGOs etc directly or indirectly working for children. If the school is in an urban area, the community may be defined somewhat differently and include merchants, shopkeepers, government workers, and others. All of these persons can make significant contributions towards improving children’s learning and supporting inclusive education.

Right to education Act has also made it mandatory for formation of School management committees where there would be representation of parents of children with disabilities.

4.7.1 Need for involving communities

Communities may not be aware of the difficulties schools face, and to what extent certain children with disabilities have education related problems that could be solved through increased support from families and communities. This requires openness and information sharing from both sides and the acceptance of joint responsibilities. An inclusive approach to education recognizes that the community has a real contribution to make and that they have a right to be involved in the decision making process. A great challenge is to seek the involvement of the families of the most marginalized students specially children with disabilities who often face marginalisation themselves. It thus becomes necessary to give them a sense of confidence and self worth. The schools and centers of learning need to ensure that the information provided to them is in a language they understand.

Communities are the overall context in which children live and learn, and in which they apply what we have taught them. The values and involvement of families, community leaders, and other community members are vitally important for getting all children in school and helping them to learn successfully. If families and communities value the education we give their children (and value us, as teachers, as well), then children will also value their opportunity to learn. It will encourage them to respect us and their classmates—especially those with various backgrounds and abilities—and encourage them to apply their learning in their daily lives.

Utilizing community resources is vital also for facilitating children’s learning because they will be able to relate easily because communities also offer a wealth of information and practical knowledge that we can use to improve our teaching and promote children’s learning. For instance, we can incorporate traditional stories or songs into our language lessons, or use different techniques for growing local plants or raising animals in our science lessons. If we want to mobilize the resources needed to improve learning for ALL children, to
improve the quality of our schools, and to achieve sustained, lasting change, then we must work together!

4.7.2 Community and Schools: Building Partnership

It is often the linking of school and home environments that pose a challenge for learners and educational planners. How do we take account of all the learning that happens outside the formal or non-formal learning settings? How do we link the learning that takes place before the child enters the school or learning setting? Education has to be relevant to community life and be related to learners’ real-life challenges. Acknowledging and respecting different views regarding the contents and methods of education is also important. Though teachers may be professionally trained in education issues, they may not be sufficiently aware of the knowledge and skills within communities and of how these resources could support schools in their work.

Schools and communities cannot be isolated from each other. In order to have sustainable impact and to enable effective policy-level advocacy there is a need to model inclusive thinking and implementation both in schools and communities. Planning for improved schools and developing effective school-community partnerships are the first steps towards inclusion. Schools and communities need to understand each other and reinforce each other’s role towards comprehensive school improvement and a more inclusive, diversity-friendly society

4.7.3 Developing partnership with Families and Communities

As we know parents are first teachers of the child therefore one of the most important responsibilities as teachers is to open lines of communication to families and other members of the community. Children learn better when their parents and other family members are interested in, and involved with, the school and with education.

There are many effective ways to begin communicating with families. Below is a list of some of them. Try a method that you like the best, are most comfortable in doing, and then go on to try the others.

- Hold meetings with family and community groups where you introduce yourself, describe your goals for teaching and for children’s learning, the value of diversity in an inclusive, learning-friendly classroom, and discuss the ways in which families and community members can participate in your classroom activities.
- Once or twice a year, schedule informal discussions with parents to assess their children’s learning. Show them examples of their children’s work. Stress each child’s talents and positive achievements,
- and talk about how each child can learn even better if she or he overcomes certain obstacles.
- Send your students’ work home to show parents how well their children are doing. Ask them for their opinions about their children’s work, and what do they think their children should learn next.
- Encourage children to talk about what they learn at home and use this information in your lessons. Also talk with the parents about how what their children are learning in class relates to their life at home. In other words, show how their classroom knowledge can be used, or is being used, at home.
• Encourage family members to participate in classroom activities and invite community experts to share their knowledge with your class.
• Encourage formation of parents group of children with disabilities which can become a support group for the school to implement inclusive education.

In an inclusive system of education there is a need to recognize the role, of families and community value and respect their views and opinions. The community needs to believe that the right to education is a basic human right. Practice reveals that if we want to mobilize the resources needed to improve the quality of our schools and make inclusive education a reality and achieve sustained, lasting change, we need to involve the community and work together.

4.8 Summary

• An inclusive learning environment (ILFE) means we make it possible for ALL children from different background and abilities to participate and achieve learning outcomes which includes children with disabilities.
• Teachers have the responsibility to create a learning environment which provides with equitable opportunities for participating and learning in the classroom.
• ILFE schools must recognise and respond to the diverse needs of their students, accommodating different styles and paces of learning and ensuring quality education to all through appropriate curricula, organisational arrangements, teaching strategies and resource use and with support from the community.
• Children with disabilities face physical barriers, curriculum barriers & attitudinal barriers.
• Important components elements of ILFE are Relationship of student teacher, classroom composition, seating arrangement, learning and learning resources, evaluation.
• Three basic steps a teacher needs to keep in mind when endeavouring to create an inclusive learning environment. Firstly identifying and understanding the child’s needs in terms of sensory, physical and intellectual diversities. Second Identify barriers—physical and curricular—to learning attitudinal barriers at home and school. Thirdly address and remove the barriers to meet the child’s needs.
• Teachers need to build upon the knowledge and skills in teaching them new things. But to do this, we must closely observe our children and how they learn new ideas, skills, and values.
• The values and involvement of families, community leaders, and other community members are vitally important for getting all children in school and helping them to learn successfully.
• Parents and community members have important work to do to support the development of inclusive learning environment in the schools and classrooms.
• Important responsibility with the teacher is to know to communicate with families and community for eliciting their involvement in education of their children.
• RTE act mandates development of School development committee mandatory.

4.9 Experiential Learning:

1. Reflect on the following Case Study. Read the case study and answer the questions

Anapurna was a teacher in government primary school in Magadi block. This was a typical school in a small village with 70 children and 2 teachers - Annapurna and Harish - teaching classes 1 to 5. The children’s parents are mainly small farmers or weavers. This school has
two children with special needs enrolled in Grade 3. Girish has a physical impairment that affects his mobility. Sneha has a hearing impairment. Girish was brought to school by his father on his bicycle. There was no toilet in the school and the children had to go out in the field. Drinking water was accessible to all as it was kept on a stool with a glass. Class 5 students were responsible for the water, on rotation. Annapurna had undergone three days of orientation in IE conducted for regular teachers. Annapurna mobilised resources at the local level and arranged for a wheelchair for Girish and hearing aids for Sneha. Annapurna believed that no child should be excluded from learning and all children have a right to attend school. She made other students responsible to bring Girish to school by pushing his wheelchair on rotation. Children were happy to push Girish’s wheelchair, while hanging their bag/s on it. The problem for Girish, though, was not yet over at the school entrance, because once he got there, it was physically inaccessible. So he was lifted out of his wheelchair and carried into the classroom. Thereafter, Annapurna approached the village panchayat president for building a ramp under the 3 percent disability provision, but he was of no help, except giving promises. Annapurna wanted to solve this problem at the earliest, so with the help of students and some of their parents, she built a mud ramp from the lower side of the school. Now Girish could enter the classroom with his wheelchair and could also attend other school activities comfortably without anyone carrying him. She also made a low cost swing by hanging a tire from the tree so that all the children could play. Annapurna also spent time visiting Sneha’s home to ensure that she was using her hearing aids and that her parents, who were daily wage labourers, continued to send her to school. She also met with a nearby NGO and arranged for Sneha to be given auditory training by a speech therapist on a weekly basis. Annapurna was given the best teacher award by the education department. (Adapted from narrative of DPEP schools in Karnataka, 2000)

a) Explain the barriers children had in the school.
b) List out how the teacher made the classroom accessible.
c) Explain the peer support elicited by the Teacher. was the peer support

d) List out the specific needs of children with disabilities in that school.
e) What steps did the teacher take to solve barriers faced by child using the wheelchair?
f) Why was the teacher selected for best teacher award

2. Make a poster of different elements of ILFE to sensitize teachers.

4.10 Check your Progress:

1. What is the meaning of ILFE
2. What are the salient features for creating ILFE at school level.
3. Explain Meaningful learning from the context of ILFE.
4. List out how the measures for making classroom inclusive learning friendly?
5. List out the different people who can help you to create an ILFE
6. What is the role of community and family in developing inclusive classrooms
7. What are the methods in getting family and community participation.
8. List the elements of an ILFE.
9. List two benefits of an ILFE for each of these groups: children, teachers, parents, and other members of the community.
10. List out the three barriers children with disabilities face in education.

4.11 Assignment for Self-Evaluation
1. As a teacher, what changes would you introduce to make the classroom more inclusive and learning-friendly?

### 4.12 Tutor Marked Assignments

1. Describe what it looks like in a classroom (such as considering seating arrangements, learning, learning materials, relationships and assessment)
2. List out the pointers for classroom management.
3. Give an example from language, mathematics and science: how will you make curriculum locally relevant.

### 4.13 References

Ahuja A Dr, (2005) paper presentation *Promoting Community Involvement: the Key to Inclusive Education* Inclusive and Supportive Education Congress International Special Education Conference Inclusion, Glasgow UK


*Source Book for Student Teachers:* Karnataka Elementary Teacher Education Curriculum 2013. Bengaluru, Karnataka, DSERT


UNESCO. Guides for Special Education. Paris.


Online


Unit 5: Developing Inclusive Learning Resources

5.1 Objectives

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

- Understand the need for collation and creation of learning resources
- List out different types of learning resources
- Recognize the use of learning resources in inclusive settings
- Develop resource centers/resource corners
- Appreciate diversity as a resource

5.2 Introduction

Learning Resources are not just textbooks and they are no longer the sole resource in a classroom. But they are more than that. The Learning resources can be materials, devices, digital etc., and also can be different learning strategies like listening to songs, playing games, field visits, or practicing exercises. Each lesson combined with learning resources engages all children’s senses and that makes easier to understand concepts. The different resource types give teachers the flexibility to teach in ways that work best for them – in the classroom, or outside!

Learning resources means any tool that helps teachers teach and students learn. They are an important resource for teachers for developing inclusive classroom transactions effectively. It is important to understand the different types of learners in the classroom as they have different styles of learning viz., visual, auditory, read-write and Kinesthetic. Children learn in different ways and may perform differently in different environments. Hence no one strategy or methodology fits for all learners. Teachers need to apply principles of Universal Design for planning a lesson with more flexible methods; inclusive learning resources and assessments as it helps all learners can access a range of high-tech and low-tech learning solutions. The UDL provides a framework for planning how to present resources, provide opportunities for strategic learning, and arrange environments for maximum engagement. It helps teachers reach more students and create an inclusive classroom where all students benefit.
Use of these resources helps in clarity, maxims senses & teaching, encourages participation, scientific way to explain besides meeting the specific need of children with disabilities. e.g. Learning resources can help the child with visual impairment to use his tactile senses; a child with hearing impairment can see and feel to learn and for other disabilities it can provide with the multisensory approach to learning.

5.3 Need for collation and creating of learning resources (LR)

We are aware of senses are the gateways of learning. It is indicated that 11% of what is learned is from the sense of HEARING and 83% is learned through SIGHT. Think about the children with visual impairment and hearing impairment. Does an instructional activity in a classroom without a single teaching learning resource (TLM) or learning resource would help these students in learning? Where do we need to support the learning of these children? Obviously, we need to address the ‘hearing’ and ‘sight’. Teaching process combined with the sense of seeing(83%), hearing(11%), smelling(3.5%), touching(1.5%) & tasting(1%) and doing will help in effective learning in all the children in general and Children with visual impairment and hearing impairment in particular.

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

In a classroom where students are from various language and social backgrounds and some of them have disabilities; keeping the pace of learning is bound to be little difficult. Appropriate LR/TLM will facilitate teachers in bringing students at one learning platform. Effective teachers should be creative and resourceful in designing flexible learning environments that address the variability of learners using a range of high-tech and low-tech solutions.

<table>
<thead>
<tr>
<th>High-Tech</th>
<th>Low-Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital text, eBooks, WebQuests, Videos with closed caption, electronic translations</td>
<td>Text books, print materials, dictionaries, translators</td>
</tr>
<tr>
<td>Multimedia presentation, podcast</td>
<td>Speech, lecture, interview</td>
</tr>
<tr>
<td>Graphing calculators, Geometer's Sketchpad, excel spreadsheets</td>
<td>Graph paper, geoboards/rubber bands, pegboards</td>
</tr>
<tr>
<td>Virtual manipulatives, GPS devices, talking rulers</td>
<td>Tiles, geoboards, base ten blocks, compasses, Braille measuring tools</td>
</tr>
<tr>
<td>Virtual simulations</td>
<td>Role play, demonstration</td>
</tr>
<tr>
<td>Word Processing, note-taking pen, audio recording, MP3 player/ipod</td>
<td>Folded paper, notebooks</td>
</tr>
<tr>
<td>Classroom response system, electronic games for review</td>
<td>Response cards, scavenger hunt review</td>
</tr>
</tbody>
</table>

Source: http://mast.ecu.edu
The teacher needs to play a significant role in:
- Identification, mapping and maintenance of resources
- Collection, planning and preparation of resources
- Correct selection of resources
- Critical reflection about the quality of resources in terms of its content using appropriate skills in using the resource

As a teacher you also need to have in mind how to explore and identify and collate resources which are easily available in the environment and you can also involve parents and students to bring the concrete things (related to the classroom lessons) from their houses viz., cereals, pulses, vegetables, honey, fruits, plant, leaves, flowers, etc.

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

5.3.1 Creating Learning resources

Schools must have provision to help students and teachers create their own learning resources. Creating resources is an essential component to support teaching learning for developing inclusive classroom practices. Besides the resources have to be created using locally available materials to make it relevant to the local conditions.

The following points to be kept in mind while preparing the LRs/TLMs:
- No teaching aid should have only visuals or pictures; it has to be along with the written language if required it will be made in large print.
- The language used in teaching aids has to be in complete sentences rather than the isolated words.
- Use the language the student is familiar with and if required it will be made visual or sight vocabulary
- Use tactile material if you have students with visual impairment (SWVI)
- Visual information is more supportive in learning for a Student with hearing impairment(SWHI). But this does not mean TLM using auditory information is of no use. SWHI should not be denied opportunity to learn only because the material is auditory oriented.
- Abstract concepts have to be focused upon rather than oversimplified concrete words. For example for the story of the rabbit and the tortoise, just the pictures of the two animals will not help. Concepts like ‘running race from this tree till that temple’, ‘winning’, ‘happy’, ‘sad’, etc should be made clear.
- Overuse and abuse of TLM should be avoided. For the learnt words and concepts, the TLM should not be used again and again. The objective of using TLM is to give support in learning and not to make students over dependent on TLM. For example, first time when Shivaji’s lesson is introduced; it is good to have a few pictures of Shivaji ready. But later when higher concepts like coronation, treaty, war strategies etc are involved TLM should be in the form of graphics rather than just a picture.

5.3.2 Example of developing the learning resource.

**Subject:** Language  
**Grade:** 1-4
Topic/Theme: Reading
Purpose: Model Reading & Shared Reading
Name of the Learning Resource: BIG BOOK


I. Instructions for using LR based on inclusive teaching & learning principles.

- Select the chapter from English language subject for creating the big book
- Create the book
- Place the big book on the stand or table with the teacher standing next to it so that it is visible to all children.
- Narrate the story with finger pointing to each letter with clear pronunciation for children with hearing impairment (HI) so they can connect to the word and lip read and understand.
- Encourage children with questions to interact and touch the book and its pictures for tactile stimulation, especially for children with visual impairment (VI) and to help them to develop concepts of different words.
- Opportunity to learn alphabets words and phrases.
- Associate the picture to the story line.
- Use the sentences placed at the lower end of the big book for interaction, both in regular script.
- Invite children with VI to read in Braille, which is placed at the lower end of the big book.

II. Instruction for creating/making the resource

Materials Required:
- White chart sheets
- Coloured pen, Pencil, Rubber, Scissors.

III. Instructions for making the Big Book:

- Take four white chart sheets
- In each chart sheet draw pictures of a farmer growing different crops (which has to be explained for reading).
• Chart 1 e.g. explains about the farmer growing wheat, therefore after drawing the picture, different materials such as dried twigs or bamboo grains and pulses are pasted to provide a tactile impression.
• Below the diagram write the different sentences of the chapter in English and in Braille also.

IV. Planning
   This activity can be taken up any time for reading and storytelling.
   Text Book stories can be simplified

V. Assessment
   – Use the following checklist for assessment
   Retell the story
   Spell the selected words
   Use the words as sentences.

Refer for More learning resources available at

5.4 Different type of learning resource

The Learning Resources can be categorised into
1. Concrete Resources
2. Activity Resources
3. E resources

5.4.1 Concrete Resources

(a) Natural Resources: Environment- time, space, dust, soil, sand, air, light, water, plants, animals etc.
(b) Material Resources: Charts/posters, flash cards, models, Raw materials: Paper/card, board, colours, glue
   Finished materials: Tools, blackboard to computers, mobile phone, camera, tape recorders, lab equipment like scissors, needles, test tubes, microscope, lens various models to teach subject specific concepts.
(c) Print Resources: Printed books (Textbooks, reference books, instruction manuals, magazines), newspaper, posters, mile stones, display boards, pictures, photographs, charts, flash cards.

5.4.2 Activity Resources

1. Talking-Listening
2. Narration-story/events
3. Singing/playing on an instrument
4. Dance/Drama/
5. Exploratory activity: Nature walk, Browsing the net, Searching in a library etc
6. Observation
7. Gardening
8. Games
9. Physical exercises
10. Drawing/painting
11. Actions while following oral or written instructions
12. Guided group discussion

5.4.3 E-resources:

Internet-and web resources constitute E-resources. Since the source of this is flooded with information. The challenge lies in carefully choosing what is relevant and appropriate for the learner keeping in mind the learner diversity and objective of the lesson to be taught. The open educational resources can be adapted and tailored to ones context. Eg: Shagun of SSA KOER-inclusive education is an open resource for inclusive education. The digital materials such as CD-ROM, audio cassettes enable storage of the e-resource and use it as and when needed.

5.4.4 List of different Learning Resources and Devices for Children with disabilities

Children with disabilities have the right to have the basic entitlements which will enable them to access, pursue and complete the cycle of elementary education. The following entitlements will enhance functional capabilities of students with disabilities and ensure their participation and inclusion in all the scholastic and non-scholastic activities.

<table>
<thead>
<tr>
<th>CHILDREN</th>
<th>TEACHING and LEARNING AIDS</th>
<th>ASSISTIVE TECHNOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children with total visual impairment</td>
<td>Braille text- books, talking books, Braille dictionary, story books and other reading material in Braille, Braille Kit (Braille paper, slate and stylus) for reading and writing, Taylor Frame and abacus for Maths Various kinds of tactile and embossed materials - globes, charts, models, diagrams, etc including tactile and audible maps Talking devices, Brailler, Geometry devices Environmental exposure * Adapted recreation and leisure materials (audio balls, playing cards, chess, etc)</td>
<td>Special computer aided devices like- Label Reader, Laser Cane, Colour Recogniser, GPS Audible and Tactile signages Provision for DVD player with radio</td>
</tr>
<tr>
<td>(Blindness)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children with Visual impairment</td>
<td>Text books and other reading materials in large print, audio, e-text, etc. Provision for felt pen and ruled notebooks Low-vision writing frame Illuminated writing device Sketching devices (Pragna) Environment modifications (proper)</td>
<td>Low vision devices (Optical and Non optical) - magnifiers, stand magnifiers, spectacles magnifiers, thick glasses/ lens CCTV and camera mouse Computer software and devices Adaptive Desk with Power sockets and battery-operated devices</td>
</tr>
<tr>
<td>(Low vision/Partially sighted)</td>
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</tbody>
</table>

Block-2: Pedagogy for Inclusive Education
| Children with Hearing Impairment | Visual aids - Pictorial TLMs, flash cards and story cards  
Sign language can be given as an option under co-curricular activity to enhance peer support.  
Children with language difficulties should be exposed to language acquisition and reading soft wares | Hearing Aids  
Access to speech, language and communication development computer packages (WAGMI)  
Computer assisted learning  
Reading software |
|---|---|---|
| Children with intellectual disabilities | Educational support (workbooks and TLMs - concrete material, flash cards, pictorial illustrations for concept learning, Real life experiences in community)  
Peer Support  
Life Skills  
Time for answering questions should be extended. Breaks may be allowed to counter fatigue | Computer assisted instruction |
| Children with Autism | Access to quiet, distraction-free learning area in classroom  
Weighted cuffs, weighted/ vibrating pencils/pens  
White boards and white board markers | Access to Computer assisted Language, Communication development and Cognitive enhancement software packages  
Adapted hardware: Touch screen, PC, mouse, colour coded keyboard  
Talking books  
Adapted books: Velcro text books |
| Children with Cerebral Palsy (CP) and Orthopedic impairment (OI) | Adaptations in reading and writing-  
Pen/Pencil grips, wedges, TLM, concrete objects used in day to day life, etc.  
Special furniture might be required by these children  
Adequate space allocation to meet individual needs of children using assistive devices | Assistive devices in terms of physical, mobility, and Orthosis  
Modified furniture- chairs, standing frames, study desks, walkers, gaiters, crutches, rolaters, wheel chair, etc  
Alternative Augmentative Communication system (communication board, etc) |
<table>
<thead>
<tr>
<th>Seating of these children should be done sensibly depending on the assistive device they use. Proper positioning and safe/careful handling of children with cerebral palsy, with the help of the resource teacher/parent. Arrange for a suitable writer for children with writing difficulties. Use of communication boards for responding to questions is essential. Enough response time to children with cerebral palsy. This is important as they might have communication and speech problems. Breaks may be allowed to counter fatigue. Accessible classroom-adequate (minimum prescribed space not less than 2.1 sq. mtr) space for moving wheel chair, tri-cycle, handrails near black-board. Provision for adaptive games and recreation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head-pointers Low tech and high tech communication devices including interface. Computer assisted Language, Communication and Cognitive enhancement packages. Use of technology for e.g. computers, voice synthesizers must be ensured, which would mean adapted desks and tables and more space for the child. The paper/answer sheet provided should be thick enough (as children with cerebral palsy at times use lot of pressure while writing). Augmentative and Alternative Communication (AAC) must be used to support and enhance the speech attempts of individuals who are unable to talk clearly. * Accessible/disabled friendly facilities-Toilets, drinking water taps, corridors, assembly halls, play grounds, etc.</td>
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</table>

<table>
<thead>
<tr>
<th>Children with Multiple disabilities (MD)</th>
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</thead>
<tbody>
<tr>
<td>In case of children with multiple disabilities, the nature of support will depend upon the combination of disabling conditions and the needs therein. The child with multiple disabilities to be supported from a resource teacher/volunteer/peer/buddy. Teaching needs to be more application oriented, experiential and practical for this group of children. Effective use of peer support to enhance communication and mobility skills. Time for answering questions should be extended. Breaks may be allowed to counter fatigue. Provide Scribe facility.</td>
</tr>
<tr>
<td>Use of appropriate technology, technological aids and software, like PacMate for deaf-blind, should be encouraged. Information to be provided in appropriate format (Braille, sign language, e-text, large print, tactile, audio-visual, etc). Resource room facility should be made available, if required.</td>
</tr>
</tbody>
</table>
Children with Deaf blindness

<table>
<thead>
<tr>
<th>Qualified special educator</th>
<th>Access to tactile sign language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caretaker</td>
<td>Low vision aid and hearing aid</td>
</tr>
<tr>
<td>Tactile / large print reading materials</td>
<td>Tactile teaching learning materials</td>
</tr>
<tr>
<td>Pre-Braille teaching materials</td>
<td>Sensory training</td>
</tr>
<tr>
<td>Braille slate and Brailleers (typewriter) with Braille paper</td>
<td>Refreshable Braille display (Pacmate / Alva Optilecetc)</td>
</tr>
<tr>
<td>Adapted furniture like reading board</td>
<td>Tactile (Object and Braille)</td>
</tr>
<tr>
<td>Auxiliary books and materials in Braille – stories / puzzles / guides</td>
<td>Mobility guides</td>
</tr>
<tr>
<td>Human support for one to one communication</td>
<td>Mobility Cane (Red and White stripes)</td>
</tr>
</tbody>
</table>

Access to tactile sign language
Low vision aid and hearing aid
Tactile teaching learning materials
Sensory training
Refreshable Braille display (Pacmate / Alva Optilecetc)
Tactile (Object and Braille)
Mobility guides
Mobility Cane (Red and White stripes)
Computer with appropriate software
Devices used for children with Blindness, low-vision, Hearing Impaired, cerebral palsy

Source: SSA

For different types of Functional devices, Refer Use of Technology in Universal Design for Learning: Unit 3, BLOCK 2 - PEDAGOGY FOR INCLUSIVE EDUCATION

5.5 Use of learning resources in inclusive settings

Classroom teachers support students with diverse abilities and needs, cultural backgrounds, experiences and learning styles. As teachers, we are required to make use of strategies and resources that engage, motivate and encourage active participation and learning by all students.

5.5.1 Why to use Learning Resource/TLM?

- To draw & hold attention;
- To provide stimulating variations while learning;
- For sustaining interest;
- For comprehension of key concepts in terms of clarity, co-relation, coordination and interconnection relationships;
- For making abstract concepts concrete;
- For making complex concepts simple;
- For better retention;

Skills of using resource:

Mere availability of learning resource will not ensure its optimum usage. The following factors determines appropriate usage of learning resource.

1. Topic, sub topic, concept and theme that is being learnt.
2. Learning levels/age of learners
3. Special needs of learners:
Hence the following pointers should enable teachers to ensure optimum usage of available resource.

1. Why should I use this resource?
2. Will the same serve the learning purposes of all children in my class? If yes how? If No then what is the alternative?
3. Which child will benefit from this?
4. Is it sensitive to certain social and cultural aspects? Are there any aspects in the resource that can physically or mentally disturb the learner?
5. At which stage of the learning process this resource should be introduced?
6. Will I just use it as display/ do I demonstrate/ children work in groups/children work individually based on instructions/children can have self access without needing teacher assistance?
7. How long it is to be used? Or how frequently it has to be used?
8. What are the likely confusions it might cause?
9. Where do I preserve these for future use?
10. What other alternate resources do I have?

Scaffolding is also something that seems to make a real difference. Start out with the teacher using heavily mediated instruction, known as explicit instruction, then slowly begin to let the students acquire the skill, moving towards the goal of student mediated instruction.

5.5.2 When & How to use Learning Resource/TLM:

The LR/TLM can be and must be used at all the steps of the teaching learning process: Introduction, Imparting knowledge, Recapitulation, Assessment, Home work and Follow up.

5.5.3 Usage of LR/TLM while teaching different subjects in the classroom:

<table>
<thead>
<tr>
<th>Science</th>
<th>Mathematics</th>
<th>Social Science &amp; Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using microscopes, hand lens, collecting rocks, soils, labeling specimens, night study of constellation provide great opportunity for concrete learning. Models can be substitutes for real things when we are not able to get them. Preparation of models could form a topic for project work. Carrying out experiments and demonstrations result in effective learning. Students should be allowed to handle the instruments and equipments. Models of respiratory system, circulatory system and</td>
<td>Maths is a subject wherein doing is more prominent than reading. Moreover it is a fact that Maths is a subject full of abstract things. That is why many students may take lesser interest in this. To create necessary interest is a constant problem for a teacher. That is why this subject demands the use of aids at every step. Some TLM like ball frames, beads, number blocks, number cards for teaching place values, sticks, colored balls of solids, pebbles, seeds, toy money, weights and specially manufactured things like</td>
<td>Teaching of history and geography can be effective if we arrange visits to places of importance, valleys, lakes, old forts, museums, monuments etc. Usage of Globe, maps, Atlases while teaching geography helps students to learn and relate. Students get a correct idea of various minerals when they are shown these objects. Real objects and models evoke interest in children and simplify the teaching process.</td>
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</table>
internal organs are available in the markets. These models when used appropriately will benefit the learners and the teachers.

<table>
<thead>
<tr>
<th>Instructional Activities</th>
<th>Challenges of some learners</th>
<th>UDL Solutions for using Learning Resource:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed Reading Materials</td>
<td>Learner has difficulty comprehending vocabulary</td>
<td><strong>UDL Solution Planning Table</strong></td>
</tr>
<tr>
<td></td>
<td>Learner cannot see small text</td>
<td><strong>Methods &amp; Materials that offers multiple means of</strong></td>
</tr>
<tr>
<td></td>
<td>Learner cannot decode at grade level</td>
<td><strong>Representation:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Action &amp; Expression</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Engagement:</strong></td>
</tr>
</tbody>
</table>

- The vocabulary will be presented visually and auditorily using text with the language the students are familiar with, simple definitions, and pictures/symbols.
- Use other senses as mediums of learning. (Use gestures, body language, expressions, lip reading etc.)
  - **For eg. 'Fly'**
  - Show flying through hand gliding movements/using flying toys with word flash cards in large print or
  - Take the students outside and show birds, insects, airplanes etc.

- Audio books, daisy books or books on computer, as found suitable, can be used for reading.
- Alternatively, a classmate can read aloud to her/his classmate.
- Students use Vocabulary cards
- With large print to express their answers
- Use Talking book/computer to
| Whole Class Presentation | Learner has difficulty comprehending material content  
Learner is distractible misses information  
Learner has difficulty processing verbal information | Making lesson inclusive (multiple options with flexibility) - simplifying the material content by using shorter & simple sentences. Use pictures (flash cards), real objects, real experiences, dramatisation, and activities | Students can be shown pictures or other visual cues, concrete objects, a few at a time, for better understanding  
Make suggestive student responsible for a small group learning |
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</thead>
<tbody>
<tr>
<td>Writing Assignment</td>
<td>Learner struggles with spelling, Learner has difficulty with written language Learner cannot outline and organize ideas Learner cannot handwrite legibly</td>
<td>Teacher can use Multisensory approach for learner struggles with spelling (through games) Alternative modes of communicating such as audio recorder, or support for note taking, gestures, pictures, computers may be used.</td>
<td>For students with problems in writing, modified (large grip) pencils may be provided. A classmate can help by taking notes. Carbon paper can be used for making copies. Extra time for writing should be given if the child is able to write on his / her own and there should not be undue emphasis on the quality of writing as long as it is legible. Students can use adapted brushes, modified pencils and thick markers that can be gripped easily, for writing /drawing. Make use of computers. Allow answer orally or Make writers / Scribes available for written work and for tests and exams.</td>
</tr>
</tbody>
</table>
| Assessment               | Learner cannot read questions Learner cannot retrieve key contents vocabulary with ease | Make provision to provide required material (prepared worksheet) and accept the response given | Encourage varied responses - Pointing, unjumbling of word flashcards for completing a sentence. Provide scribe for writing oral response with adequate time. Use objective
| Learner needs test taking preparation | Make use of Computer | Provide prompts – words, starters, pictures, experiences Colouring, pasting, or demonstrating answers | type, multiple type questions with matching cards / using yes/no or true/false answers |

### 5.6 Developing Resource Centers / Resource corners

#### 5.6.1 What we mean by Resource Centre?
Resource Centre is a place where an inclusive/special education teacher instructs and assists students identified with special needs due to disabilities and learning difficulty. It is for those students who belong to a regular class but need some resource teaching/special instructions in an individualised or small group setting for a portion of the day (time & number of students varies). It is typically a large room in the main school building with lots of facilities for children with special needs. The Resource teaching includes remedial, compensatory and developmental instruction, which is provided in small groups for usually three to five hours per week.

#### 5.6.2 Why we need Resource Centre?
Resource Centre is needed for some students who require individualized special inputs from the trained inclusive/special education teacher as and when required within the mainstream school set up. It is also needed to instruct some students who require specialized academic support for social studies, science or languages or literacy. Mainstream Schools can look at special school as guiding source or a resource center to get individualized special support for the students with special needs.

#### 5.6.3 Function of a Resource Centre
- Provides space for sustained pragmatic intervention for growth and learning of teachers.
- Enables continuous teacher development through Inputs that are closely linked with classroom practices and the needs of teachers.
- Stocks number of pedagogical aids both instructive & enjoyable play activities games etc.
- Provides a variety of professional support to teachers and children.

#### 5.6.4 How Resource Centres helps students' individual needs?
The Inclusive/Special Education teacher work closely with the regular classroom teacher to help support the child as much as is possible. Students in the resource room are provided behaviours intervention as & when required as it provides a less distracting environment and a better chance at success. Usually academic support through resource teaching / remedial teaching is given to the needy students.

Academic resource support system has been an important component in developing and implementing inclusive education program in the Indian context. The Project for Integrated Education for the Disabled (PIED) under the Ministry of Human Resource Development was one of the landmark projects in the field of education for children with disabilities which
initiated resource centres at the block level to support and implement inclusion. Block level resource centers still continue in SSA. The resource centers play a pivotal role towards providing support system to regular teachers, inclusive education resource teachers and children and parents. Resources centers are equipped with teaching learning resources and equipment to provide therapies.

The resource room includes:
- Academic Lab
- Low Vision Lab
- Sound Proof Room
- Therapeutic Room
- ICT Room and a classroom

The following activities are conducted in a resource room:
- Identifying learning needs of children, functional assessment in terms of identifying the strengths and weaknesses, developing a teaching plan for an inclusive classroom
- Provision of a barrier - free classroom arrangement (use of space, seating, mode of access to information in class using various techniques- large print, Braille, signs, tactile maps, etc)
- Use of teaching techniques like multi-sensory, cooperative learning, peer teaching, co-teaching with a resource teacher, etc
- Development of inclusive TLM (tactile, 3-D, multisensory approach, models, visual and auditory aids and tactile aids.

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**District Education Resource Centre (DERC), Chamarajanagar**

The DERC was set up by the DIET in the premises of the Govt School in Chamarajanagar in the year 2003-04 in collaboration with the NIAS, Bangalore and it was started functioning from 2006-07 with the financial support of Ratan Tata. The DIET oriented D.Ed students to use this centre and they are borrowing Teaching Learning Materials (TLMs) for their practice teaching classes. It enables them to understand the importance of using TLMs. Besides D.Ed & B.Ed students, teachers, BRPs & CRPs are utilizing this centre. The DERC has internet facility and it is utilized by the teachers. The Education Departmental Publications are collected in the centre and are utilized by the beneficiaries.

Some of the following Learning resources are available in the centre:

- TLMs like Books, materials, Maths & Science Kit and CDs are arranged subject wise
- Primary Maths Kit with handbook (Akshaya)
- Scientific models for eg. Rain tube made out of bamboo, iron nails and green gram to make sound of Raining.
- Hands-on and Hands-off material
- All Class Text Books
- Computer with internet facility
- News Paper Corner with availability of daily News papers in the Centre (5-6 School Children can read newspaper at a time)
- School children can watch CDs in the Centre on different subjects
- TLMs for Basic Operations in Maths – Fraction, Decimal, Place Value, etc.

The surrounding Elementary and Secondary School teachers and students besides D.Ed &B.Ed Students are utilizing the learning resources of the DERC. But the students & teachers from the Govt School where the DERC is placed have maximum benefits. The DERC enables them to construct their knowledge through concept development by make use of the learning resources at the Resource Centre.
Resource centers played a significant role in bringing together the resources for children with disabilities to the block level. This provides supportive measures to meet the needs of children with disabilities besides building capacities of regular teachers and other functionaries in the school system for implementing inclusive education. The Block Resource Centres are responsible to provide and monitor quality of education for all children.

Therefore as an inclusive teacher it is the responsibility to strengthen the center by equipping with need based learning resources and developing learning resources in collaboration with regular teachers and using these resources for classroom practices.

5.6.5 Learning Corners

Learning corners are space inside the classroom where learning resources can be displayed by the teacher. Resource Corners are developed at school level which can develop resources needed for children including children with disabilities. Place in the library or any class can be utilized for developing learning corners which can have a variety of learning resources to make learning interesting for children.

Children are often curious about the natural world around them. Science and mathematics corners can stimulate children’s curiosity and improve learning. Children can collect and organize all of the things that interest them, and these resources can be available for use by ALL children. Children may grow seeds in these corners, collect fruits, and display objects they have found, such as seashells. You will need to think carefully where these learning corners should best be located so that ALL children can work in these areas without disturbing others.

5.6.5 Block Resource Centres (BRCs) under SSA

The Block Resource Centres (BRCs) were established in each block of every district under SSA to conduct in-service teacher training and to provide academic support to teachers and schools on a regular basis as well as to help in community mobilization activities.

SSA have been setting up Resource Rooms in each BRC for meeting the needs of Children with Special Needs (CWSNs) under Inclusive Education: All children with disabilities, irrespective of severity, enrolled in general schools. All teachers oriented to meet their needs. The Resource rooms have the equipment needed for all types of therapy. The children receive regular therapy to improve their muscular and kinaesthetic skills. Other usual interventions (like medical check-ups, and audio disability testing) are integrated with these resource rooms.

The parents are also given guidance on how to exercise their children at home. The rooms are also used to train special teachers and regular teachers. However through Resource Centre at Block level, they are providing the following interventions.

Specific Interventions for children with disabilities under Resource Room of SSA:
- Supply of Aids & Appliances
- Training of in-service teachers on IE
• Arranging Corrective Surgery for screened children in medical camps
• Counselling – Parents of CWSNs are called for a meeting & community awareness programme is also organises at Cluster / Block level.
• Exposures to CWSNs – Field trips, Adventure & Nature study camps

5.7 Diversity as a resource

“Our children need to feel that each one of them, their homes, communities, languages and cultures, are valuable as resources for experience to be analysed and enquired into at school; that their diverse capabilities are accepted; that all of them have the ability and the right to learn and to access knowledge and skills; and that adult society regards them as capable of the best”. (NCF, 2005)

To value children from diverse backgrounds forms the basis for inclusive education. Diversity in an inclusive classroom becomes a resource to be tapped, rather than a problem to be addressed. To value every child also forms the basis for developing a classroom culture of accepting diversity as a part of egalitarian society.

A diverse classroom always has the potential for dynamic interactions and broadening the knowledge base. This potential can be realized by creating opportunities for children to:

• Share their own experiences – In an inclusive classroom children from diverse backgrounds can enrich the curriculum substantially by sharing about their personal experiences, knowledge and traditions of their families. For example: Children from poorer households have to work helping out with family chores or sometimes to support their family income. This is invariably considered undesirable by schools thereby making children feel ashamed of it and hence not discuss about their work in school. But this can be turned into a potential strength since work, either household chores or a paying job is a source of rich experience, responsibility and discipline. Similarly as teachers we can bring in the rich oral traditions, in the form of folk stories, songs, riddles, sayings and crafts preserved by many groups in our society (NCF, 2005). Children who are shy to share with the class can be helped to write their experiences down. The experiences shared by children (oral/written) can then be used by the teacher to evolve context specific inputs while teaching different subjects.

• Raise questions – Questions are crucial for communication. By encouraging all children to ask questions you are giving them a chance to voice out their concerns, issues, problems and doubts. A diversity of such voices enriches everyone’s understanding and gives children better self-confidence. Also with their curiosity and penchant for asking questions, children can stimulate thinking and contribute original perspectives. Many children would need time and a non-threatening atmosphere before they are ready to ask questions.

• Provide explanations in their own preferred style – Giving children opportunities to explain what they are learning, would clarify their understanding and also help provide a variety of forms which may appeal to different groups of children. For example: The language of a child giving verbal explanation would be simple enough to be understood by many others; Children who are inclined to draw can depict what is being learnt in graphical forms; Children who are skilled with their hands can create models and so on. Of course a teacher has to scaffold children’s explanations to be effective as a means of learning for the entire class. (Refer to Unit 1 for meaning of scaffold).

• Engage in group work – Flexibility and diversity in grouping ensures children work together to create and extend each other’s understandings. Assigning group work is
complex and needs careful planning. A teacher has to design the task(s) for the groups to engage in, s/he then has to decide on the size and nature of grouping, keep the required resources (if need be) ready, and think through her/his own role while children are engaged in group activities. It also takes time for children to develop skills in working in a group.

5.7.1 Theoretical perspectives of diversity

- The Russian psychologist Lev Vygotsky’s theory of development bears directly upon issues of diversity. Vygotsky’s work emphasized that individuals make sense of their world through discourse (talk, dialogues, discussions) and interaction with others. His theory is founded on the assumption that in order to understand the individual, one must first understand the social relations in which the individual exists.

- Constructivist learning theories maintain that knowledge is constructed by an individual through interaction with teachers and peers or through experience with objects. According to constructivist theory of learning, children are active agents in their learning, not passive receivers into which information is deposited. In the constructivist perspective, the role of the teacher becomes one of facilitator; teachers facilitate children’s learning through the discussion, interaction, and personalized projects that take place in the classroom. Children are at the center of the learning process, and the role of teachers is to facilitate that learning through guided instruction. Children come to school from different cultural, linguistic and socio-economic backgrounds and have different abilities (children with disabilities or gifted children). They each have their own experience and knowledge, including their home languages and cultural values, and skills acquired in their home and community environments. Such knowledge and skills should serve as the framework to construct new knowledge and understandings.

A diverse classrooms always has the potential for dynamic interactions because each child can contribute their experiences based on their back grounds. The exchange and experience enrich individuality. Diverse contexts indicate diverse relationship and. Opportunity and need to utilize the resources from diversity or the from diverse group of children to construct the learning environment for ALL. Besides this she has also to help children develop conceptual understanding in Maths and Environmental Science and assist them in development of the capability to use all forms of language. It is clear that this requires a realization of the aims and goals of education, the way children learn and as pointed out above sensitivity and understanding of their backgrounds.

5.7.2 The teachers need to be

- Sensitive to all learners and keeping in view the diverse needs of children and barriers faced by them.
- Adapt the teaching and learning methods to different styles and rhythms of learners.
- Provide quality education through the appropriate use of resources, entitlements, school organisation, study plans as well as partnership with the community.
- Believe in her ability to learn and have the preparedness to engage with her.
5.7.3 Diversity According to NCF 2005

Curriculum development and reform in NCF 2005 is directed towards inclusive and meaningful experience for children, along with an effort to move away from a textbook culture. It emphasizes the fundamental change in how we think of learners and the process of learning. It focuses on ‘Child-centred’ pedagogy which means giving primacy to children’s experiences, their voices, and their active participation. This kind of pedagogy requires teachers to plan learning in keeping with children’s psychological development, interest and also sociological background. The learning plans therefore must respond to physical, cultural and social preferences within the wide diversity of characteristics and needs. NCF also states that learning is active and social in its character.

We have the required policy and law in the form of NCF, 2005 and RtE 2009 in our country that mandate teachers to use diversity as an educational resource. But it may not always be easy. A teacher from outside the community may find it difficult to understand children and this becomes a problem especially in lower classes; Mental disabilities - A teacher may not be equipped to handle severe behavioral problems of a child with mental disability or may feel put off by a child who is not toilet trained. But these need not become insurmountable. While definitely difficult, the issues should not prevent a teacher from trying.

5.8 Summary

- Learning resources means any tool that helps teachers teach and students learn and they are an important resource for teachers for developing inclusive classroom transactions effectively.
- As a teacher you also need to have in mind how to explore and identify and collate resources which are easily available in the environment with the support of parents and students.
- Creating resources is an essential component to support teaching learning for developing inclusive classroom practices.
- The Learning Resources (LR) can be categorised into Concrete Resources, Activity Resources & E resources.
- Important to select the relevant and appropriate resources for the learner keeping in mind the learner diversity and objective of the lesson to be taught as E resources is flooded with information.
- Children with disabilities have the right to have the basic entitlements which will enable them to access, pursue and complete the cycle of elementary education.
- As teachers, we are required to make use of strategies and resources that engage, motivate and encourage active participation and learning by all students.
- The LR/TLM can be and must be used at all the steps of the teaching learning process.
- Teachers need to apply principles of Universal Design for Learning solutions for using inclusive learning resources as it helps all learners can access a range of high-tech and low-tech learning solutions.
- Resource Centre is a place where an inclusive/special education teacher instructs and assists students identified with special needs who are having disabilities and learning difficulty.
- The resource centers play a pivotal role towards providing support system to regular teachers, inclusive/special education resource teachers and children and parents.
- Mainstream Schools can look at special schools as guiding source or a resource center to get individualized special support for the students with special needs.
• To value children from diverse backgrounds forms the basis for developing diversity as a resource.
• Diversity needs to be perceived as enrichment rather than a challenge in the learning process.
• The teacher needs to be sensitive to all learners and keeping in view the diverse needs of children and barriers faced by them.

5.9 Experiential Learning

1. Select a topic from any subject and make inclusive learning resources for teaching all students in inclusive classroom on that topic
2. Prepare a disability wise chart of Learning resources and devices required to meet the specific needs of students with disabilities
3. Prepare a Plan of Learning Resources by applying Principles of Universal Design for Learning solutions to teach in an inclusive set up
   OR
4. Do survey in surrounding schools and find out whether they have resource rooms in their schools.

5.10 Check your Progress:

1. What is Learning Resources?
2. What are the different types of Learning Resources?
3. How teachers can collate Learning resources?
4. What is the need for learning resources?
5. What are the important points to keep in mind for developing learning resources?
6. What is the format for planning requirement of learning resources with high tech & low tech solutions for teaching diverse classroom?
7. What is the need for Resource Centre
8. Can Special Schools act as a Resource Centre?
9. What is the theoretical basis for developing diversity as a resource?
10. According to NCF how can you use diversity as a resource in classroom?

5.11 Unit-End Assignment

1. List out High tech & low tech resources.
2. Select a topic from any subject and make a learning resource.
3. How will you identify potentials among students in diverse classroom and make use of it for effective classroom teaching?

5.12 Assignments for Self-Evaluation

Make a List of different types of Learning Resources and Devices can be used for Children with disabilities

5.13 Tutor Marked Assignments

• Prepare a presentation for regular schools on significance of Resource Room for effective inclusion of all students in mainstream schools.
• Make a detailed plan of establishing Resource room in any of the School covered under your survey.
• Explain with examples how would you use diversity as a resource in your classroom.

5.14 References

• Ainscow, M (1998) Reaching Out to All Learners: Some Lessons From Experience Keynote address at the International Conference on School Effectiveness and Improvement, Manchester
• Banerjee R; Mehendale A & Nanjundaiah M; Editors (2011). Understanding Inclusive Practices in School ; Examples of Schools from India, DDP UK & Seva-in-Action, Bangalore, India
• Julka A & et al (2014). 'Including Children with Special Needs-Primary Stage' DEGSN, NCERT, New Delhi
• MHRD. (2011). Module on Multi category training of Resource Teachers in Inclusive Education in SSA, New Delhi
• Source book for Student Teachers (2014). DEd curriculum, Department of State Educational Research & Training (DSERT), Government of Karnataka

Web link

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