RESOURCE MATERIAL – I

(A back-up material for 2-year D. El. Ed. Course syllabus transaction)

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FOREWORD

This 2-year D. El. Ed curriculum, developed as per the guidelines of NCFTE, 2011 has been designed as a package of 4 (four) semesters to equip prospective *teachers* with the *knowledge, attitudes, behaviours* and *skills* that they require to perform in their future teaching profession effectively in the *classroom*, *school* and wider community.

Though, ideally teacher education is conceived of as a seamless continuum comprised of the initial teacher training/education, induction training and continuing professional development, yet the initial teacher training/education (pre-service) bears its own unique stand and importance in equipping and preparing a perspective teacher.

Teaching in elementary stage involves the use of a wide body of knowledge about the subject being taught, and another set of knowledge about the most effective ways to teach that subject to different kinds of young learners. It therefore requires teachers to undertake a complex set of tasks every minute. Many teachers experience their first years in the profession as stressful. However, this could be avoided by the teachers who undergo the initial training purposefully and get exposed to different aspects of teaching and learning of elementary stage learners. In the present context, schools need reflective teachers, who have love of teaching, knowledge base, inquiring attitude, who are caring, problem solving and constructivist. A reflective teacher starts by considering his/her own pasts, as learners and teachers and reflecting on beliefs, knowledge and values that he/she has developed from his/her experiences.

However, in context to the newly developed curriculum and syllabus for 2-year Diploma in Elementary Education, it has been observed that provision of some textual back up materials would facilitate and ensure its effective transaction.

SCERT; Assam has thus took effort to develop in workshop mode some back-up and supplementary materials semester-wise by consulting with the resource personals of various academic institutions of the state. This effort has resulted 'Resource Material-1' in the present form. It is expected that the Resource Material will help the Teachers Educators to address and transact the emerging issues/topics of different contents of the curriculum effectively.

I am grateful to all who have rendered their valuable contribution in shaping this Resource Materials.

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Childhood and the Development of children

Perspective in Development:

Development of the child can be defined as the emergence and expansion of his capacities to provide greater facility in functioning. This development is achieved through the process of growth, maturation and learning, which has two aspects of change: those of quantity and quality

Development is achieved through the processes of growth, which refers to quantitative change in size and structure; it also refers to an increase in magnitude in body size, in muscular strength, and in intellectual ability. Growth is also an integrated, unitary process. As for example, the various parts of the body have their own growth rate. The head grows rapidly in fetal and infant life and at a diminishing rate during the next ten years.

However, development is not just limited to growing larger. It consists of a progressive series of changes of an orderly coherent type towards the goal of maturity. The goal of development is 'self actualization' or 'self realization' i.e. to reach the maximum genetic potential or to reach the maximum maturity.

The human being is never static; from conception till death, the individual is constantly changing. These changes follow specific principles/patterns; they are called the principles of child development.

Principles of child growth and development:

1. *Development is a continuous process*: Development is a continuous process from the time of conception till death. It may slow down or speed up at certain times but it never stops completely at any time.
2. *Development follows predictable patterns*: Each child has his own pattern of development, which emerges at his own characteristic rate. Irrespective of heredity, all children follow a similar pattern of development.
3. *Every individual normally passes through each major stage of development*:

Each stage has certain characteristics. Each stage is distinguished by a dominant feature, a leading characteristics that gives the stage its uniqueness. However, the entire period of development is divided into following stages:-

(a) Pre-natal period – from conception to birth
(b) Neo-natal stage – from birth to 2 weeks
(c) Infancy – from 2 weeks to one year
(d) Babyhood – from 1 year to 2 years
(e) Childhood – from 2 years to 12 years
(f) Adolescence – from 13 onwards

4. *Development is sequential*: Development follows an orderly sequence, which is same for all the individuals. Each stage of development leads to the next. The rate and speed of development may vary from individual to individual, but the sequence remains the same.

One of the sequential patterns of development relates to two directions:-

(i) Cephalopodan: Development proceeds from the upper portion of the body to the lower portion i.e. from head to toe.

(ii) Proximodistal : Development proceeds from near to far i. e. from center to periphery

5. Development proceeds at different rates: While the development is continuous, it is never uniform. As children grow, each area of development proceeds at its own rates and reaches it maturity in its own time period. For example, heart, liver and digestive organs grow slowly in childhood but rapidly during the early years of adolescence.

6. Early development is crucial than later development: Early development is more important and critical than the later development. Attitudes, habits and patterns of behavior established during the early years determine to large extent how successfully individual will adjust to life, as they grow older. They are likely to be persistent. Any unfavorable environmental condition at this stage may seriously damage physical and mental potential.

7. *Development pattern show wide individual differences:* As each child has his own characteristic rate of development, we cannot expect same behavior from all children of the same age. Environment may also play an important role in the development of child.

8. *Development comes from maturation, learning and influences of environment:* The maturational is genetically programmed so that certain aspects of physiological growth take place innately. The environment provides opportunities for learning that may hinder or aid maturational process in developing organic elements to their maximum. The maturational process is in turn, influential in determining when and if certain types of learning are ready to take place. Certain undesirable behavior patterns can be changed by maturation and learning but only the child learns the new behavior pattern.

Factors influencing development:

Development is not due to one factor alone but to many, each related to the others and all are interdependent but some may play more important role than others. So, the following factors are here in the order of their importance –

1. Intelligence: It seems the most important among all factors. Because high-grade intelligence is associated with retardation

2. Sex: Sex plays an important role in the physical and mental development of the children. For example, at birth boys are slightly larger than girls, but girls grow more rapidly and mature sooner than boys

3. Glands of internal secretion: These glands affect in both pre-natal and post-natal stage of growth. For example, deficiency in the activity of the sex glands delays the onset of puberty, while hyper activity brings about precocious sexual development.

4. Nutrition: At every stage, foods are very important for the normal development of child. The quality of food is more important than quantity of food. Defective teeth, rickets, skin diseases etc. were traced due to incorrect diet during the early childhood development.

5. Fresh air and sunlight: This helps in the physical and mental development of the child.

6. Injuries and diseases: Any injury or disease like head injury, toxic poisons, drugs, tonsil, typhoid fever may retard to certain extent the child's development. Mostly this condition effects his/her physical development.

7. Race: Racial differences in development shows that childhood of the Negro and Indian races are slow in their development than the children of white and yellow races.

8. Culture: An experiment was attempted to determine the influence of culture on the child's development by subjecting a group of Hopi Indians babies. It was found that, in spite of differences in their culture and that of typical American babies, the Hopi babies showed the same social motor responses, as did the American babies. Similarly, shyness and fear of strangers appeared at the same age levels.

Domains of child development:

There are three domains of development, which come under child development. They all are inter-related and affects each other. These are as follows:-

(i) Physical and Motor development : (a) Gross motor and (b) fine motor

(ii) Socio-emotional development: (a) Social development (b) Emotional development

(iii) Cognitive development: (a) Language skill (b) Computational skills (c) Exploration of the environment – Natural and Social

Humanistic psychology and developmental theory:

During the 1950's, humanistic psychology began as a reaction to psychoanalysis and behaviorism, which dominated psychology at a time. The new school of psychology reflects the recent trends of humanism of psychology.
Humanistic psychology was instead focused on each individual's potential and stressed the importance of growth and self-actualisation. The fundamental belief of humanistic psychology is that people are innately good and that mental and social problems result from deviations from this natural tendency.
In 1962, Abraham Maslow published toward a psychology of being in which he described humanistic psychology as the 'third force' in psychology. The first and second forces were behaviorism and psychoanalysis respectively.
One of the major strengths of human psychology is that it emphasizes the role of the individuals. This school of psychology gives people more credit in controlling and determining their state of mental health. It also takes environmental influences in to account; rather than focusing solely on our internal thoughts and desires. Humanistic psychology also credits the environmental influence on our experiences.

Developmental theory:
Development involving quantitative as well as qualitative changes in one's structure and its functioning is a process that starts from the earliest stages of any life or organism. The organism, in course of time, reaches its peak to be called mature for its full growth and development. Various theories tracing the developmental stages have emerged. A few of these well-known theories are –

(i) Freud's theory of psycho- sexual development
(ii) Jeans Piaget's theory of cognitive development
(iii) Erickson's theory of psycho-social development
(iv)Kohlberg's theory of moral development

Freud's theory of psycho-sexual development:
Sex is a life urge, therefore not only of adults but also of infants who manifest sexual desire by sucking the breast of their mothers and feeling satisfied. Freud termed thin as infantile sexuality. Growing with such needs for sex gratification, the individual's psycho-sexual development is said to pass through certain distinctive stages like the oral stage, the anal stage, the phallic stage, the latency stage and the genital stage. At each of these five psycho-sexual development, the child seeks sex gratification through some distinct peculiar means, which is unique to that particular stage i.e. sucking behavior, seeking gratification through the use

of the mouth at the infantile stage. In case the child is denied proper sex gratification through the specified ways of his stages, he is bound to suffer at the later stages turning him into a disorganized personality showing maladaptive behavior.

Freud tries to think of libido as sex instinct and ego instinct. By 'libido' Freud does not mean only sex instinct, but all types of love, whether it may be for father, mother, brother, friend or colleagues. Freud analyses 'libido' into three parts namely, Oedipus or Electra complex, masochism or sadism. By Oedipus or Electra complex, Freud indicated child's love for father and mother. In this love, the child feels jealous. If the child is a girl, she feels jealous of mother and this is called Electra complex. If the child is a boy, he feels jealous of father, which is then called Oedipus complex. The girls feel jealous of her mother because she considers mother as an obstruction in winning father's love. Freud is of the view that this complex develops in a person. In masochism under influence of love, a man troubles himself, while in sadism he shows cruelty or gives troubles to others. He finds a kind of pleasure in either troubling himself or others.

- *Piaget's theory of cognitive development*: Piaget's theory of cognitive development identifies four distinct stages of children's intellectual development. Sensory-motor, pre-operational, concrete operational and formal operational. A child's cognitive abilities develop as he progresses from stage to stage. For example, in the concrete operation stage he begins to think logically but is unable to think abstractly. During the formal operation stage, he begins to think abstractly and deal with problems that are not physically present.

- *Erickson's theory of psycho-social development*: This theory brings out eight stages spread over the whole span of human life. These are trust versus mistrust, (birth to 1 year), autonomy versus shame and doubt (1 to 3 years), initiative versus guilt (3 to 6 years), industry versus inferiority (6 to 12 years), identity versus role confusion (12 to 19 years), intimacy versus isolation (20 to 45 years), generativity versus stagnation (45 to 65 years) and ego integrity versus despair (65 onwards). Each of these stages is associated with a distinctive crisis of life faced by the individual at that particular stage.

- *Kohlberg's theory of moral development*: Kohlberg's theory of moral development to his cognitive development relates an individual's moral development to his cognitive development. Kohlberg identified three levels of

moral development – Pre-moral (4 to 10 years), conventional morality (10 to 13 years), and self accepted moral principles (13 or more, sometimes afterwards). Each of these levels was described to consist of two stages. In this way he tried to describe moral development as a function of the development of one's sense of justice evolving progressively through the six stages covered at the three levels of morality at different periods of one's life. He also asserted that many of us are not able to cross the 2nd level of moral development. There in lies the varying individual perception in terms of the equality and level of morality depending upon cognitive development as well as on upbringing and social experiences.

Enduring things in the study of development:

Post-natal maturation and learning are closely interrelated. Maturation and practice go hand in hand. With out sufficient maturation, practice is ineffective, with out practice the ability, which is matured may disappear. The child learns many things from the society, and the neighborhood where he lives. Development thus depends on the interaction of heredity-environment and social and cultural forces of the environment.

Heredity and environment:

At the time of conception when the parent cells fuse, a unique biological pattern is fixed. It is the most important moment in the life of a child since at this time a pattern for his growth and development is set.

The environment supplies nourishment and other biological needs and also provides protective shielding and opportunities for functional stimulation. Environment includes habits of living – such as sleeping, eating, activity and adjustment to one's circumstances and the people. A child grown up in an un-stimulating environment is likely to be slow in talking, slow in walking and generally retarded in development. Many studies show that personality development of children are directly influenced by child rearing practices.

- *Role of heredity and environment:* Heredity and environment can't not be separated. There are gradations in the relative influences of the two factors. Certain characteristics can not be attributed to heredity almost exclusively. Genes can not function unless the various aspects of the environment play their necessary roles. The question of environmental influences can be best studies as a matter of specific analysis, particularly when we consider the factors, which affects individual differences. Some children become criminal not become of a particularly bad environment but because of internal instabilities that prevent from making a satisfactory adjustment to the requirements of their life. Heredity too makes different contributions to

different traits. There have been many studies of the effect of heredity and of environment upon the development of intelligence and personality.

Thus, in answer to the question "which is more important, nature or nurture?, we may conclude that the development and growth of a child is influenced by both heredity (nature) and environment (nurture) as both are indispensable.

- *Development as multidimensional and plural*: The human development approach is multidimensional and plural. It is about culture as much as it is about political participation. It deals with fiscal policy as much as health policy. Human development thus relates to many aspects that concerns people's lives, not only economic ones. It can therefore not be subsumed under one single academic discipline. It compasses many, including economics, law, sociology, political science and philosophy.
- *Development as continuing through the life span:* Development can be described in different ways. The most common way of describing it is according to chronological age. A brief description of the several stages may now be given to show how children behave differently at successive ages. The outline will indicate how children learn new and more complete tasks as they grow older. Each stage has certain characteristics and in each stage certain behaviors or traits standout more conspicuously than others.

Since, there are individual differences in the rate of growth, age limits for different stages can be regarded as merely appropriate and suggestive.

Development follows the principle of continuity, which means that in one's life it is a never-ending process. It starts with conception and ends with death. The changes, however, small and gradual, continue to take place in all dimensions of one's personality through one's life.

- *Ways in which development is continuous/discontinuous*: The path followed in development by the child is not straight and linear. Development at any stage never takes place with a constant or steady pace. At a particular stage of his/her development after the child had developed to a certain level, there is likely to be a period of rest for consolidation of the development progress achieved till then. In advancing further, therefore, development turns back and then moves forward again in a spiral pattern.

Thus, continuous development is called when a child gradually develops by adding new knowledge and skills into old knowledge and skills.

Discontinuous development is said to be when a child goes through clear stages and is less of a steady progression. There may appear to be a gap or sudden change in one's ability because discontinuous development suggest children on chunks (i.e. when a child goes from crawling to standing to walking, some times over night one day they can do when yesterday they could not.

Some people choose to believe either continuous or discontinuous development is the correct way of viewing it, but in fact, they both provide into child development. Think of it like the butterfly life cycle. The first stage is egg, second caterpillar, third cocoon and the fourth butterfly. Each stage is discontinuous development but with in the stages there is no steady, continuous development.

***Socio-cultural contexts influencing development*:**

A social child is one who behaves in a socially approved manner, plays the role which society prescribes for him and has favorable attitudes towards people and social activities. Socio-cultural development means acquisition of the ability to behave in accordance with social and cultural expectations.

Socialization is a process of a change and development that leads to the development of an individual into a social animal. After learning the social and cultural expectation he moulds his bahaviour to fit his own needs and desires.

Factors effecting socio-cultural development:

1. **Family** :

   (a) *Family relation*: From infancy family experiences importantly socio-cultural development.

   (b*) Ordinal position:* The position of the child in the family also affects social development. The elder, middle and the youngest child all will have different intensities of social development. The only child is often less social.

   (c*) Size of the family:* The size of the family in which the child grows up not only affects his early socio-cultural experience but also marks his social attitude and patterns of behavior.

   (d) *Peer group role:* Peer group role plays an important role in the socio-cultural development of children.

   (e) *Parental attitude*: The socio-cultural behavior and attitude of a child reflects the treatment receives at home.

   (f) *Child rearing methods:* The child who is brought up in a democratic home makes the best socio-cultural adjustment.

2. **School**:

Roles of (a) Teacher (b) peer group and (c) co-curricular activities are to be discussed here.

3. **Society**:

To discuss the roles of (a) neighborhood (b) social organizations i.e. various clubs, such as sports clubs, youth club, cultural club etc. and the participation and observation of festivals.

(*suggested activities*: the students may be instructed to collect data of different children of their localities and make analysis upon the data)

Physical –Motor development

A young child's physical growth first begins as muscles gain strength with use and children gradually develop coordination. The development of muscular control is the first step in this process.

Think about the words **physical development**. They encompass so many different tasks and abilities. What are some of them and what role do they play? For example, crawling across the floor is a task young children engage in that involves physical development.

It also involves activities such as running around outside, jumping on the bed, grasping a parent's finger or using a pencil to draw in a coloring book.

Where do these tasks all fit in the world of physical growth and development?

Patterns of Physical Development

The findings of a variety of research efforts suggest parents' goals for their children related to physical development often vary across cultures and socioeconomic groups. The expectations parents have for a child's physical development thus will depend on culture, family status or the presence of physical limitations. For example, in a culture where a sport such as soccer is played early and very competitively, a parent's assessment of a child's physical abilities may be linked to performance on the soccer field. But the basic patterns of physical development in children are universal.

The concept of development includes two major categories: **normative development and dynamic development**. Each of these is defined as follows:

- **Normative development** concerns the typical (normal) capabilities, as well as limitations, of most children of a given age within a given cultural group. It indicates a typical range of what children can and cannot be expected to do and learn at a given time.
- **Dynamic development** concerns the sequence and physical changes that occur in all aspects of a child's functioning with the passage of time and increasing experience, and how these changes interact.

Normative development is important because it allows parents and other adults to understand what to expect of a child physically at different ages. For example, expecting a 3-year-old child to zip her own coat would be unrealistic because she still is developing the physical ability to use fingers in that way.

How do you know what a child should be able to do physically? Typically, we refer to **developmental milestones** to indicate steps in physical ability for a child that should be reflected at different ages, such as during the 3- to 6-month period or between 2 and 3 years.

The term **motor development** refers to physical growth, or growth in the ability of children to use their bodies and physical skills. Motor development often has been defined as the process by which a child acquires movement patterns and skills.
Genetics, size at birth, body build and composition, nutrition, rearing and birth order, social class, temperament, ethnicity and culture influence motor development.
Physical growth follows several basic principles.
Many times in thinking about physical development, we think most about **large-muscle or gross-motor development**. This type of development refers to the use of large-muscle groups in the legs (running) or arms (throwing).
However, **small-muscle or fine-motor development** also is included in the physical development of a child, and deals with such areas as smiling, picking up a fork or tying a shoe.
Small-muscle development is evident as infants grasp cereal to put in their mouths and is enhanced by activities such as picking up blocks or drawing with crayons.

How Children's Bodies Grow

Activity No. 1 - Thinking About Outdoor Activities

Outdoor activities are important for children to learn and develop their physical abilities as they grow older. Brainstorm and list responses to the following questions related to outdoor activities. Discuss them with a spouse, friend, family member or group.

- What was your favorite outdoor activity as a child? _____
  _____ _____
  _____
  _____
- What is one thing you enjoy doing outside now that could include your child?
  _____
  _____
  _____
- What are the benefits of outdoor play? _____
  _____
  _____
  _____
- What are some barriers to outdoor play for children and possible solutions?
  _____
  _____
  _____

A number of principles regarding physical growth can be helpful in understanding a child's physical development.

- **Directional Growth**

First, the growth of a child's body follows a directional pattern in three ways. Knowing this is important so expectations of a child's physical abilities are appropriate. The patterns of development are:

1. **Large to small muscle or gross to fine motor development** - Large- to small- muscle development means large muscles develop in the neck, trunk, arms and legs before the small muscles in the fingers, hands, wrists and eyes develop. Children can walk before they can write or scribble.
2. **Head to toe or top to bottom-** A second pattern is children's muscles develop from head to toe. This is why babies can hold up their heads long before they can walk.
3. **Inside to outside or center to outside -** A third pattern is muscles develop from the center of the body first and then toward the outside of the body. Muscles around the trunk of the body develop earlier and are stronger than muscles in the hands, feet, etc.

• **General to Specific Growth**

Large-muscle movement begins with waving of the arms and legs of infants, and it then develops into the more specific movements of an older child who can walk and draw a picture. So, muscle growth begins with more general abilities and becomes more specific and defined as children get older.

• **Differentiation and Integration in Growth**

Differentiation is the process that a child's muscles go through as he or she gains control over specific parts of the body and head. Once children have found (differentiated) the parts of their body, they can integrate the movements and combine specific movements to perform more complex physical activities, such as walking, building a block tower or riding a bike.

• **Variations in Growth**

Children vary in their physical abilities at different ages. Different parts of the body grow at different rates. The range of physical skills to be expected in gross- or fine-motor development will be very different for infants versus preschoolers. Further information on variations in physical abilities among children at different ages is explored in a separate publication.

• **Optimal Tendency in Growth**

In children, growth generally tries to fulfill its potential. If growth is slowed for a particular reason, such as malnutrition, the body will try to catch up when it is able to do so. This is one reason why children may develop skills in later years even if delays occurred at an earlier point in their development.

• **Sequential Growth**

Different areas of a child's body will grow at different times. In other words, development is orderly and occurs in a pattern. Children must be able to stand before they can walk. This pattern is evident in a number of ways, such as rolling over before sitting up, sitting up before crawling and crawling before walking, etc.

• **Growth During Critical Periods**

Growth in certain areas of a child's physical development may be more important at particular times during childhood. For example, recent brain research indicates the first few years of life are very important in the development of the brain's growth and for intellectual competence. Similarly, the critical time for the development of motor skills is between 18 and 60 months of age (1 to 5 years).

Research suggests children go through four physical growth cycles: two of slow growth and two of rapid growth. The first period of rapid physical growth goes from conception to the age of 6 months. The rate of growth gradually slows during the toddler and preschool periods. The second period of rapid growth is during puberty in the years of preadolescence and adolescence. Another period of leveling off occurs after puberty until adult growth is achieved.

Activity No. 2 - Brainstorming Activities for Physical Development

Brainstorm ideas for the use of materials to promote physical development through different activities. Record activity ideas, identify materials needed and highlight the areas of physical development addressed. Share with a family member, friend or group.

Record activity ideas	**Identify materials needed for the activity**	**Describe the areas of physical development addressed (fine motor, hand-eye coordination, etc.)**
• Example - Rolling a ball back and forth with a toddler or preschooler.	Soft plastic ball	Gross-motor skills - arm muscles, fine-motor skills - hands, hand-eye coordination

Types of Movement and Their Benefits for Children

Children need to move and be active in many different ways to reach their full physical development. Remember the following points:

- *Children grow and mature at individual rates.*
- *Children's motor development progresses through a sequence.*

• *Children need to build on what they know, going from simple to complex.*

Different types of physical movement are important in a child's physical development. Parents and caregivers can benefit from learning the importance of patterns of physical development to support children as they learn to move and develop physical abilities.

The types of physical movement that children engage in and are important to their physical development include the following categories:

• **Loco motor Movement**

Movement of the body from place to place is involved in locomotors movement. Physical abilities such as crawling, walking, hopping, jumping, running, leaping, galloping and skipping are examples of locomotors movement. This type of movement helps develop **gross-motor skills**.

• **Non-loco motor Movement**

Movement of the body while staying in one place is involved in non-locomotor movement. Physical abilities such as pushing, pulling, twisting, turning, wiggling, sitting and rising are examples of non-locomotors movement. This type of movement helps develop **balance and coordination skills**.

• **Manipulative Movement**

Movement that involves controlled use of the hands and feet is reflected in manipulative movement. Physical abilities such as grasping, opening and closing hands, waving, throwing and catching are examples of manipulative movement. This type of movement helps develop **fine-motor skills and hand-eye coordination**.

Conclusion

Running, jumping, skipping, hopping, drawing, cutting, pasting, stacking - these are the skills young children develop as they grow physically.

They make possible the interactions and activities that bring richness and enjoyment to anyone's life.

From muscles to motor skills, the unfolding picture of a child's physical development is an exciting experience to observe.

Parents and caregivers should pay attention to their child's physical growth and give loving support as their children develop these skills

Motor Development in Infancy and Childhood

Most infants develop motor abilities in the same order and at approximately the same age. In this sense, most agree that these abilities are genetically preprogrammed within all infants. The environment does play a role in the development, with an enriched environment often reducing the learning time and an impoverished one doing the opposite.
The following chart delineates the development of infants in sequential order. The ages shown are averages and it is normal for these to vary by a month or two in either direction.

2 months – able to lift head up on his own
3 months – can roll over
4 months – can sit propped up without falling over
6 months – is able to sit up without support
7 months – begins to stand while holding on to things for support
9 months – can begin to walk, still using support
10 months – is able to momentarily stand on her own without support
11 months – can stand alone with more confidence
12 months – begin walking alone without support
14 months – can walk backward without support
17 months – can walk up steps with little or no support
18 months – able to manipulate objects with feet while walking, such as kicking a ball

Cognitive Development in Children
Probably the most cited theory in the cognitive development in children is Jean Piaget (1896-1980). As with all stage theories, *Piaget's Theory of Cognitive Development* maintains that children go through specific stages as their intellect and ability to see relationships matures. These stages are completed in a fixed order with all children, even those in other countries. The age range, however can vary from child to child.

Sensor motor Stage: This stage occurs between the ages of birth and two years of age, as infants begin to understand the information entering their sense and their ability to interact with the world. During this stage, the child learns to manipulate objects although they fail to understand the permanency of these objects if they are not within their current sensory perception. In other words, once an object is removed from the child's view, he or she is unable to understand that the object still exists.

The major achievement during this stage is of object permanency, or the ability to understand that these objects do in fact continue to exist. This includes his ability to understand that when mom leaves the room, she will eventually return, resulting in an increased sense of safety and security. Object Permanency occurs during the end of this stage and represents the child's ability to maintain a mental image of the object (or person) without the actual perception.

Preoperational Stage: The second stage begins after Object Permanency is achieved and occurs between the ages of two to seven years of age. During this stage, the development of language occurs at a rapid pace. Children learn how to interact with their environment in a more complex manner through the use of words and images. This stage is marked by Egocentrism, or the child's belief that everyone sees the world the same way that she does. The fail to understand the differences in perception and believe that inanimate objects have the same perceptions they do, such as seeing things, feeling, hearing and their sense of touch.
A second important factor in this stage is that of Conservation, which is the ability to understand that quantity does not change if the shape changes. In other words, if a short and wide glass of water is poured into a tall and thin glass. Children in this stage will perceive the taller glass as having more water due only because of it's height. This is due to the children's inability to understand *reversibility* and to focus on only one aspect of a stimulus (called *cent ration*), such as height, as opposed to understanding other aspects, such as glass width.

Concrete Operations Stage: Occurring between ages 7 and about 12, the third stage of cognitive development is marked by a gradual decrease in centristic thought and the increased ability to focus on more than one aspect of a stimulus. They can understand the concept of grouping, knowing that a small dog and a large dog are still both dogs, or that pennies, quarters, and dollar bills are part of the bigger concept of money.
They can only apply this new understanding to concrete objects (those they have actually experienced). In other words, imagined objects or those they have not seen, heard, or touched, continue to remain somewhat mystical to these children, and abstract thinking has yet to develop.

Formal Operations Stage: In the final stage of cognitive development (from age 12 and beyond), children begin to develop a more abstract view of the world. They are able to apply reversibility and conservation to both real and imagined situations. They also develop an increased understanding of the world and the idea of cause and effect. By the teenage years, they are able to develop their own theories about

the world. This stage is achieved by most children, although failure to do so has been associated with lower intelligence.

The role of parents and teachers in providing opportunities for physical-motor development:

It is clear that children and adults who are physically active on a regular basis are healthier than those who are not active. It is also evident from research findings that many children and adults do not regularly take part in physical activities that contribute to a healthy lifestyle.

There are many reasons for this lack of physical activity, the most evident being the lack of exposure at an early age to physical skill development activities. If you do not possess the skills to strike a tennis ball you are probably not going to play tennis. If you are not skilled in throwing or catching you will most likely not participate in games where those skills are needed. Over the past 20 years we have created a world of very young techno wizards who spend huge amounts of time watching TV, playing video games, or surfing the Internet instead of using and developing their physical skills during outdoor play. Have we created an entire generation of children who do not know how to throw and catch a ball?

If children do not learn to throw, catch, jump and kick when they are young they will not possess the skills needed to participate in physical activities as adults and thus most will not get appropriate amounts of physical activity.

Developmentally appropriate practice suggests that we as adults make educational decisions based on what is known from research and experience about how children learn and develop. For example, learning to strike a ball with a bat is not an easy task especially when we use a regulation baseball and a wooden bat. Using a plastic ball and bat is more developmentally appropriate and will initially better help the child learn the skill.

In schools today, children find themselves focused on learning basic concepts in math, reading and social studies. Physical activity, in many schools and in many homes, does not have the level of importance it deserves. Children who do not develop physical skills are those who get left out of play with their friends and could be those who remain physically inactive throughout life.

The simple fact is that if you are going to learn to read you have to spend time reading. If you are going to learn math skills you need to practice calculations using numbers. And, if you are going to learn to catch a ball, you have to participate in a developmentally appropriate and logical progression of catching activities. We know that in order to develop physical skills children must spend time practicing those skills.

Helping Children Learn How to Catch

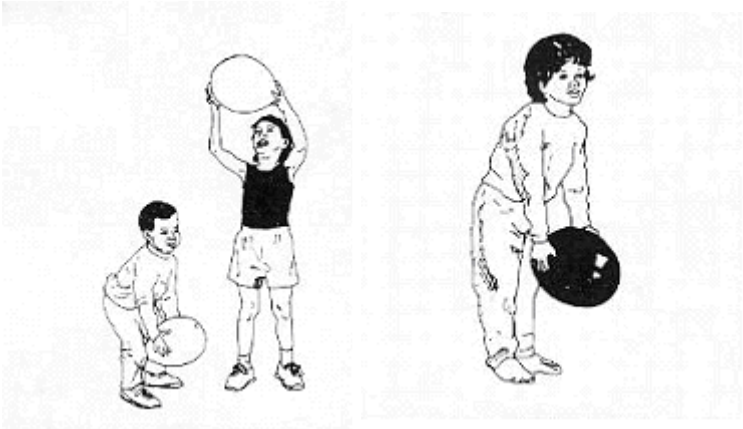
Catching is receiving and controlling an object by the body or its parts. As children learn to catch, they may first fear the ball and pull away to protect themselves. Children progress from catching a ball with their whole body, then with their arms and hands, and eventually with their hands alone. What are some basic activities that parents and teachers can introduce to children to assist them in learning how to catch?

It is considered developmentally appropriate to select catching equipment that is matched to the size, confidence and skill level of children so that they are motivated to actively participate. Equipment must be modified to assist children in learning the skill. It would be inappropriate to use an official volleyball or basketball to initially learn how to catch. More appropriate equipment would include scarves, balloons and beanbags. Inappropriate equipment leads children to frustration when they are unsuccessful and thus they do not develop the skill.

Initial catching activities should involve the use of a large balloon called a punch ball balloon. The punch ball moves slowly through the air giving children time to track the balloon and get their arms in the position to catch.

Catching Using Balloons

In order for children to catch the balloon they must first be able to throw it straight up into the air. Parents and teachers can provide the following simple directions to assist children in throwing the ball into the air.Hold the balloon out in front of you with one hand on each side. Lower the balloon below your waist until it touches your knees. Raise both hands into the air and let go of the balloon as it passes your nose. Timing the release of the balloon is important. If the balloon is released too soon it may travel far out in front of the child where it is hard to catch. If the balloon is released too late it will travel behind the child and be almost impossible to catch.



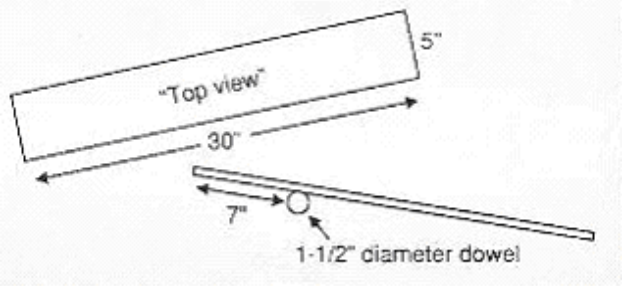
A progression of balloon catching activities might include:

- Drop the balloon, let it bounce, and then catch it.

- Throw the balloon into the air and catch it.
- See how high you can throw the balloon and still catch it.
- Throw the balloon into the air and see how many times you can clap your hands before you catch it.
- Throw the balloon against the wall and catch it.
- Throw the balloon back and forth with a friend.

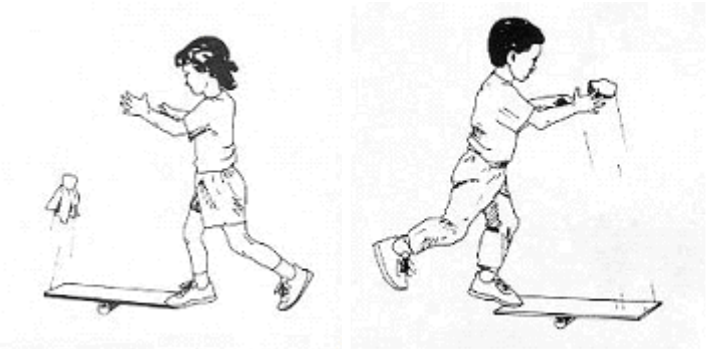
Catching Using Launch Boards

A launch board propels the ball into the air directly in front of the child and thus children do not need to be skilled at tossing the ball into the air. When a child steps on one end of the board, a ball or beanbag, placed on the other end, flies into the air directly in front of the child. Launch boards are easy to make. Use Â¼" thick birch plywood cut 30" long and 5" wide. Seven inches from one end, attach a 5-inch-long, 1-1/2" diameter dowel stick with glue and screws.



Place a small ball or beanbag on the launch end of the board. If using a ball, drill a 2" hole in the end of the board to lay the ball in. A beanbag may be the best choice as it lays flat on the board and is easy for children to grab out of the air.

"Place your beanbag on the low end of the board. Go to the other end, get your hands ready to catch by holding them out in front of you, then raise your foot and stomp on the end of the board. As the beanbag flies into the air in front of you, clap your hands around the beanbag and catch it."



The instructional emphasis for this activity should be to have children concentrate on getting their hands ready to catch the beanbag and to focus on watching the beanbag as it moves through the air. Children should first focus on attempting to

catch the beanbag with both hands at the same time then with the right and the left hand alone.
As children get better at catching, other challenges can be added such as stomping on the board so the ball or beanbag goes higher, attempting to catch two beanbags at the same time, and launching and catching other items such as a child's favorite stuffed animal. For more information on physical skill development, including specific activities and cues to help children develop skills, log on to PE Central at http://www.pecentral.org or go to the lesson ideas at http://www.pecentral.org / lessonideas /cues/cuesmenu.html.

Summary

If we want our children to participate regularly in physical activity we must first provide them with developmentally appropriate activities that will assist them in the development of physical skills. Catching is but one of those skills. When we as adults assist children in development of specific physical skills we empower them to learn about the importance of physical activity in their lives and to become physically active and healthy for a lifetime.

By sharing this valuable resource, educators can suggest one way parents can be involved as their child makes educational advancements. Parents can also use these resources with younger siblings to provide fun and engaging activities designed to enhance the child's knowledge and help the child enter school ready to learn

Social-Emotional Development:

The following text presents an overview of the developmental tasks involved in the social and emotional development of children and teenagers which continues into

adulthood. The presentation is based on the Eight Stages of Development developed by psychiatrist, *Erik Erikson* in 1956.

According to Erikson, the socialization process consists of eight phases – the "eight stages of man." His eight stages of man were formulated, not through experimental work, but through wide – ranging experience in psychotherapy, including extensive experience with children and adolescents from low – as well as upper – and middle – social classes. Each stage is regarded by Erikson as a "psychosocial crisis," which arises and demands resolution before the next stage can be satisfactorily negotiated. These stages are conceived in an almost architectural sense: satisfactory learning and resolution of each crisis is necessary if the child is to manage the next and subsequent ones satisfactorily, just as the foundation of a house is essential to the first floor, which in turn must be structurally sound to support and the second story, and so on.

Erikson's Eight Stages of Development

1. Learning Basic Trust Versus Basic Mistrust (Hope)

Chronologically, this is the period of infancy through the first one or two years of life. The child, well – handled, nurtured, and loved, develops trust and security and a basic optimism. Badly handled, he becomes insecure and mistrustful.

2. Learning Autonomy Versus Shame (Will)

The second psychosocial crisis, Erikson believes, occurs during early childhood, probably between about 18 months or 2 years and 3½ to 4 years of age. The "well – parented" child emerges from this stage sure of himself, elated with his new found control, and proud rather than ashamed. Autonomy is not, however, entirely synonymous with assured self – possession, initiative, and independence but, at least for children in the early part of this psychosocial crisis, includes stormy self – will, tantrums, stubbornness, and negativism. For example, one sees may 2 year olds resolutely folding their arms to prevent their mothers from holding their hands as they cross the street. Also, the sound of "NO" rings through the house or the grocery store.

3. Learning Initiative Versus Guilt (Purpose)

Erikson believes that this third psychosocial crisis occurs during what he calls the "play age," or the later preschool years (from about 3½ to, in the United States culture, entry into formal school). During it, the healthily developing child learns: (1) to imagine, to broaden his skills through active play of all sorts, including fantasy (2) to cooperate with others (3) to lead as well as to follow. Immobilized by guilt, he is:

(1) fearful (2) hangs on the fringes of groups (3) continues to depend unduly on adults and (4) is restricted both in the development of play skills and in imagination.

4. Industry Versus Inferiority (Competence)

Erikson believes that the fourth psychosocial crisis is handled, for better or worse, during what he calls the "school age," presumably up to and possibly including some of junior high school. Here the child learns to master the more formal skills of life: (1) relating with peers according to rules (2) progressing from free play to play that may be elaborately structured by rules and may demand formal teamwork, such as baseball and (3) mastering social studies, reading, arithmetic. Homework is a necessity, and the need for self-discipline increases yearly. The child who, because of his successive and successful resolutions of earlier psychosocial crisis, is trusting, autonomous, and full of initiative will learn easily enough to be industrious. However, the mistrusting child will doubt the future. The shame – and guilt-filled child will experience defeat and inferiority.

5. Learning Identity Versus Identity Diffusion (Fidelity)

During the fifth psychosocial crisis (adolescence, from about 13 or 14 to about 20) the child, now an adolescent, learns how to answer satisfactorily and happily the question of "Who am I?" But even the best – adjusted of adolescents experiences some role identity diffusion: most boys and probably most girls experiment with minor delinquency; rebellion flourishes; self – doubts flood the youngster, and so on.
Erikson believes that during successful early adolescence, mature time perspective is developed; the young person acquires self-certainty as opposed to self-consciousness and self-doubt. He comes to experiment with different – usually constructive – roles rather than adopting a "negative identity" (such as delinquency). He actually anticipates achievement, and achieves, rather than being "paralyzed" by feelings of inferiority or by an inadequate time perspective. In later adolescence, clear sexual identity – manhood or womanhood – is established. The adolescent seeks leadership (someone to inspire him), and gradually develops a set of ideals (socially congruent and desirable, in the case of the successful adolescent). Erikson believes that, in our culture, adolescence affords a "psychosocial moratorium," particularly for middle – and upper-class American children. They do not yet have to "play for keeps," but can experiment, trying various roles, and thus hopefully find the one most suitable for them.

6. Learning Intimacy Versus Isolation (Love)

The successful young adult, for the first time, can experience true intimacy – the sort of intimacy that makes possible good marriage or a genuine and enduring friendship.

7. Learning Generatively Versus Self-Absorption (Care)

In adulthood, the psychosocial crisis demands generatively, both in the sense of marriage and parenthood, and in the sense of working productively and creatively.

8. Integrity Versus Despair (Wisdom)

If the other seven psychosocial crisis have been successfully resolved, the mature adult develops the peak of adjustment; integrity. He trusts, he is independent and dares the new. He works hard, has found a well – defined role in life, and has developed a self-concept with which he is happy. He can be intimate without strain, guilt, regret, or lack of realism; and he is proud of what he creates – his children, his work, or his hobbies. If one or more of the earlier psychosocial crises have not been resolved, he may view himself and his life with disgust and despair.

These eight stages of man, or the psychosocial crises, are plausible and insightful descriptions of how personality develops but at present they are descriptions only. We possess at best rudimentary and tentative knowledge of just what sort of environment will result, for example, in traits of trust versus distrust, or clear personal identity versus diffusion. Helping the child through the various stages and the positive learning that should accompany them is a complex and difficult task, as any worried parent or teacher knows. Search for the best ways of accomplishing this task accounts for much of the research in the field of child development.

Socialization, then is a learning – teaching process that, when successful, results in the human organism's moving from its infant state of helpless but total egocentricity to its ideal adult state of sensible conformity coupled with independent creativity.

Gathering data about children from different contexts:

- *Naturalistic observations:* Sometimes behavioural events are observed and recorded under natural conditions by some person/persons. Such observation approach is termed as naturalistic observation or simply as observation.

Observation is a method of studying behaviour consists of the perception of an individual's behaviour under natural conditions by other individuals and the interpretation and analysis of this perceived behaviour by them. It is thus essentially a way of "perceiving the behaviour as it is". In fact, it is an indirect approach to the study of the mental process.

Interviews: The interview is a technique that should be used in connection with other techniques whenever and wherever possible. A skilled interviewer can discover many fact about the person interviewed that cannot be obtained by more impersonal measuring techniques. During the interview, the interviewer not only obtains specific data that can be subjected to statistical treatment but is afforded an opportunity to study subtle behaviour responses of the person interviewed.

- *Anecdotal records and narratives:* Enlightening data often have secured by teachers and other educators through the employment of this technique. Many situations involving pupil maladjustment arise during the course of a school day. If a record is made of a significant happening while it still is easily recalled, it can be treated more objectively later. As anecdotes are recorded from day to day, a teacher can accumulate valuable stories about his individual pupils. A teacher who develops the habit of writing and keep brief accounts of his pupils' behaviour, learns to study them and to become acquainted with their idiosyncrasies.
- *Clinical methods with reference to Piaget:* The clinical method is a method, which deals with the task of investigating the root causes of a problem or exceptional behaviour and suggesting as well as providing proper environment and possible treatment.
- *Reflecting journals about children:* A good deal of information and data could be gathered from various journals reflecting various aspects of children.

Philosophical understanding of Education

RELATION BETWEEN EDUCATION AND SCHOOLING

Before we discuss the relationship between education and schooling, let us first understand the meaning of education and schooling.

Meaning of education and schooling

We are all aware that education is a concept which has a very wide meaning as it encompasses the entire life of an individual and society. Different thinkers, Philosophers, psychologists, educationists and teachers have expressed their own views according to their own outlook on education. It is like a diamond which appears to be of a different colour (nature) when seen from different angles (point of view or philosophy of life). Therefore, it is very difficult to give its precise definition.

The term 'Education' is derived from the Latin roots under :

- *Educare* :- To bring up, to nourish
- *Educere* :- To draw out, to lead out
- *Educatum* :- To train,act of teaching or training

A synthesis of the meaning of these terms implies that education is drawing out and leading out the natural endowment with which an individual comes to the world by bringing up, nourishing, raising and training the individual. It is the process of drawing out from within, rather than putting something.

1. Schooling and Education as visualized by Rousseau :

*"Plants are shaped by cultivation and men by education.... We are born weak, we need strength; helpless we need aid; foolish we need reason. All that we lack at birth, all that we need when we come to man's estate, is the gift of education. ... This education comes from nature, from men or from things. The inner growth of our organs and faculties is the education of nature, the use we learn to make of our growth is the education of men, what we gain by our experience of our surroundings is the education of things. ... I will say little of the importance of a good education; nor will I stop to prove that the current one is bad. Countless others have done so before me, and I do not like to fill a book with things everybody knows. I will note that for the longest time there has been nothing but a cry against the established practice without anyone taking it upon himself to propose a better one. The literature and the learning of our age tend much more to destruction than to edification. (**Jean Jacques Rousseau**, Emile)"*

Jean-Jacques Rousseau was born to Isaac Rousseau and Suzanne Bernard in Geneva on June 28, 1712. His mother died only a few days later on July 7, and his only sibling, an older brother, ran away from home when Rousseau was still a child. Rousseau was therefore brought up mainly by his father, a clockmaker, with whom at an early age he read ancient Greek and Roman literature such as the *Lives* of

Plutarch. His father got into a quarrel with a French captain, and at the risk of imprisonment, left Geneva for the rest of his life. Rousseau stayed behind and was cared for by an uncle who sent him along with his cousin to study in the village of Bosey. In 1725, Rousseau was apprenticed to an engraver and began to learn the trade. Although he did not detest the work, he thought his master to be violent and tyrannical. He therefore left Geneva in 1728, and fled to Annecy. Here he met Louise de Warens, who was instrumental in his conversion to Catholicism, which forced him to forfeit his Genevan citizenship (in 1754 he would make a return to Geneva and publicly convert back to Calvanism). Rousseau's relationship to Mme. de Warens lasted for several years and eventually became romantic. During this time he earned money through secretarial, teaching, and musical jobs.

In 1742 Rousseau went to Paris to become a musician and composer. After two years spent serving a post at the French Embassy in Venice, he returned in 1745 and met a linen-maid named Therese Levasseur, who would become his lifelong companion (they eventually married in 1768). They had five children together, all of whom were left at the Paris orphanage. It was also during this time that Rousseau became friendly with the philosophers Condillac and Diderot. He worked on several articles on music for Diderot and d'Alembert's *Encyclopedie*. In 1750 he published the *Discourse on the Arts and Sciences*, a response to the Academy of Dijon's essay contest on the question, "Has the restoration of the sciences and arts tended to purify morals?" This discourse is what originally made Rousseau famous as it won the Academy's prize. The work was widely read and was controversial. To some, Rousseau's condemnation of the arts and sciences in the *First Discourse* made him an enemy of progress altogether, a view quite at odds with that of the Enlightenment project. Music was still a major part of Rousseau's life at this point, and several years later, his opera, *Le Devin du Village* (The Village Soothsayer) was a great success and earned him even more recognition. But Rousseau attempted to live a modest life despite his fame, and after the success of his opera, he promptly gave up composing music.

In the autumn of 1753, Rousseau submitted an entry to another essay contest announced by the Academy of Dijon. This time, the question posed was, "What is the origin of inequality among men, and is it authorized by the natural law?" Rousseau's response would become the *Discourse on the Origin of Inequality Among Men*. Rousseau himself thought this work to be superior to the *First Discourse* because the *Second Discourse* was significantly longer and more philosophically daring. The judges were irritated by its length as well its bold and unorthodox philosophical claims; they never finished reading it. However, Rousseau had already arranged to have it published elsewhere and like the *First Discourse*, it also was also widely read and discussed.

In 1756, a year after the publication of the *Second Discourse*, Rousseau and Therese Levasseur left Paris after being invited to a house in the country by Mme. D'Epinay, a friend to the *philosophes*. His stay here lasted only a year and involved an affair with a woman named Sophie d'Houdetot, the mistress of his friend Saint-Lambert. In 1757, after repeated quarrels with Mme. D'Epinay and her other guests including Diderot, Rousseau moved to lodgings near the country home of the Duke of Luxemburg at Montmorency.

It was during this time that Rousseau wrote some of his most important works. In 1761 he published a novel, *Julie or the New Heloise*, which was one of the best selling of the century. Then, just a year later in 1762, he published two major philosophical treatises: in April his definitive work on political philosophy, *The Social Contract*, and in May a book detailing his views on education, *Emile*. Paris authorities condemned both of these books, primarily for claims Rousseau made in them about religion, which forced him to flee France. He settled in Switzerland and in 1764 he began writing his autobiography, his*Confessions*. A year later, after encountering difficulties with Swiss authorities, he spent time in Berlin and Paris, and eventually moved to England at the invitation of David Hume. However, due to quarrels with Hume, his stay in England lasted only a year, and in 1767 he returned to the southeast of France incognito.

After spending three years in the southeast, Rousseau returned to Paris in 1770 and copied music for a living. It was during this time that he wrote *Rousseau: Judge of Jean-Jacques* and the *Reveries of the Solitary Walker*, which would turn out to be his final works. He died on July 3, 1778. His *Confessions*were published several years after his death; and his later political writings, in the nineteenth century

Jean-Jacques Rousseau was one of the most influential thinkers during the Enlightenment in eighteenth century Europe. His first major philosophical work, *A Discourse on the Sciences and Arts*, was the winning response to an essay contest conducted by the Academy of Dijon in 1750. In this work, Rousseau argues that the progression of the sciences and arts has caused the corruption of virtue and morality. This discourse won Rousseau fame and recognition, and it laid much of the philosophical groundwork for a second, longer work, *The Discourse on the Origin of Inequality*. The second discourse did not win the Academy's prize, but like the first, it was widely read and further solidified Rousseau's place as a significant intellectual figure. The central claim of the work is that human beings are basically good by nature, but were corrupted by the complex historical events that resulted in present day civil society. Rousseau's praise of nature is a theme that continues throughout his later works as well, the most significant of which include his comprehensive work on the philosophy of education, the *Emile*, and his major work on political philosophy, *The Social Contract*: both published in 1762. These works

caused great controversy in France and were immediately banned by Paris authorities. Rousseau fled France and settled in Switzerland, but he continued to find difficulties with authorities and quarrel with friends. The end of Rousseau's life was marked in large part by his growing paranoia and his continued attempts to justify his life and his work. This is especially evident in his later books, *The Confessions*, *The Reveries of the Solitary Walker*, and *Rousseau: Judge of Jean-Jacques*.

Rousseau greatly influenced Immanuel Kant's work on ethics. His novel *Julie or the New Heloise* impacted the late eighteenth century's Romantic Naturalism movement, and his political ideals were championed by leaders of the French Revolution

The *Emile or On Education* is essentially a work that details Rousseau's philosophy of education. It was originally published just several months after the *Social Contract*. Like the *Social Contract*, the *Emile* was immediately banned by Paris authorities, which prompted Rousseau to flee France. The major point of controversy in the *Emile* was not in his philosophy of education per se, however. Rather, it was the claims in one part of the book, the *Profession of Faith of the Savoyard Vicar* in which Rousseau argues against traditional views of religion that led to the banning of the book. The *Emile* is unique in one sense because it is written as part novel and part philosophical treatise. Rousseau would use this same form in some of his later works as well. The book is written in first person, with the narrator as the tutor, and describes his education of a pupil, Emile, from birth to adulthood.

The basic philosophy of education that Rousseau advocates in the *Emile*, much like his thought in the first two *Discourses*, is rooted in the notion that human beings are good by nature. The *Emile* is a large work, which is divided into five Books, and Book One opens with Rousseau's claim that the goal of education should be to cultivate our natural tendencies. This is not to be confused with Rousseau's praise of the pure state of nature in the *Second Discourse*. Rousseau is very clear that a return the state of nature once human beings have become civilized is not possible. Therefore, we should not seek to be noble savages in the literal sense, with no language, no social ties, and an underdeveloped faculty of reason. Rather, Rousseau says, someone who has been properly educated will be engaged in society, but relate to his or her fellow citizens in a natural way.

At first glance, this may seem paradoxical: If human beings are not social by nature, how can one properly speak of more or less natural ways of socializing with others? The best answer to this question requires an explanation of what Rousseau calls the two forms of self-love: *amour-propre* and *amour de soi*. *Amour de soi* is a natural form of self-love in that it does not depend on others. Rousseau claims that by our nature, each of us has this natural feeling of love toward ourselves. By

contrast, *amour-propre* is an unnatural self-love and is a negative product of the socialization process. Unlike *amour de soi*, *amour-propre* is a love of self that depends on comparing oneself with others. Essentially it consists in someone basing his or her self-worth on a perceived superiority to another. It breeds contempt, hostility, and frivolous competition. In fact, it is precisely these negative consequences that are under attack in the *Discourse on the Sciences and Arts*.

Rousseau's philosophy of education, therefore, is not geared simply at particular techniques that best ensure that the pupil will absorb information and concepts. It is better understood as a way of ensuring that the pupil's character be developed in such a way as to have a healthy sense of self-worth and morality. This will allow the pupil to be virtuous even in the unnatural and imperfect society in which he lives. The character of Emile begins learning important moral lessons from his infancy, thorough childhood, and into early adulthood. His education relies on the tutor's constant supervision. The tutor must even manipulate the environment in order to teach sometimes difficult moral lessons about humility, chastity, and honesty.

2. Schooling and Education as visualized by John Dewey :

"Education is life itself" - John Dewey

John Dewey (1859-1952) believed that learning was active and schooling unnecessarily long and restrictive. His idea was that children came to school to do things and live in a community, which gave them real, guided experiences which fostered their capacity to contribute to society. For example, Dewey believed that students should be involved in real-life tasks and challenges:

- Math's could be learnt via learning proportions in cooking or figuring out how long it would take to get from one place to another by mule
- history could be learnt by experiencing how people lived, geography, what the climate was like, and how plants and animals grew, were important subjects

Dewey had a gift for suggesting activities that captured the center of what his classes were studying.

Dewey's education philosophy helped forward the "progressive education" movement, and spawned the development of "experiential education" programs and experiments.

Dewey's philosophy still lies very much at the heart of many bold educational experiments, such as Outward Bound.

Dewey won a greater international following for his educational reforms than for his instrumentalist philosophy. Between the two World Wars, where previously backward countries were obliged to catch up quickly with the most modern methods, as in Turkey, Japan, China, the Soviet Union and Latin America, the re-shapers of the educational system turned toward Dewey's innovations for guidance.

Most broadly considered, Dewey's work consummated the trends in education below the university level initiated by pioneer pedagogues animated by the impulses of the bourgeois-democratic revolution. This was especially clear in his views on child education which built on ideas first brought forward by Rousseau, Pestalozzi and Froebel in Western Europe and by kindred reformers in the United States.

In its course of development on a world scale the democratic movement forced consideration of the needs and claims of one section of the oppressed after another. Out of the general cause of "rights of the people" there sprouted specific demands voicing the grievances of peasants, wage workers, the religiously persecuted, slaves, women, paupers, the aged, the disabled, prisoners, the insane, the racially oppressed.

The movement to reform child education must be viewed in this historical context. Children as such are not usually included among the oppressed. Yet they necessarily compose one of the weakest, most dependent and defenseless sections of the population. Each generation of children is not only helped but hindered and hurt by the elders who exercise direct control over them.

Just as society may deny satisfaction to the physical, educational and cultural needs of the young, so their parents and guardians may slight or ignore their rights. Most adults cannot be held individually culpable for such misdeeds; they, too, have been shaped by the society around them and are goaded by its necessities. Through them and others around them the rising generation suffers from the inadequacies of their social inheritance and the evils of their surroundings. Growing children are normally unaware of the remoter social causes of their misfortunes and miseries; even their elders may not know about them. So they direct their resentments, as well as focus their affections, upon the members of their immediate circle. The novels of the past 150 years provide plenty of pathetic tales and tragic descriptions of family conflicts at all age levels.

Children cannot formulate their grievances collectively, or conduct organized struggle for improvements in their conditions of life and mode of education. Apart from individual explosions of protest, they must be helped by spokesmen among adults who are sensitive to the troubles of the young and are resolved to do something about remedying them.

However, the impulsion for educational reform does not come in the first place from any abstract recognition of the deprivations suffered by the young. It arises from reactions to widespread changes in the conditions of life, which affect all age groups. Their new situation forces both parents and children to seek new ways of satisfying the new demands thrust upon them. The child brought up in a tenement or an apartment in crowded city streets has different needs and faces more complex and perplexing problems than the child on a family farm. The families who

have migrated from Puerto Rico to Manhattan since the end of the Second World War can testify to this.

The problems of readjustment differ somewhat according to the child's social status. The class structure quickly impresses its stamp upon the plastic personality, conditioning and regulating the relations between the sexes, the rich and the poor, the upper, middle and lower classes. This determines both the characteristics of the educational system and of the children tutored and trained under it.

Each broad struggle against antiquated social and political conditions since the French Revolution has evoked demands for the reconstruction of the educational system. The kindergarten and child-play movement now incorporated in our public schools was part and parcel of the ferment created by the French Revolution. Thomas Jefferson first called for national free public schools to defend and extend the newly won American democracy. The utopian socialists, in accord with their understanding that people were the products of their social environment, gave much thought to the upbringing of children and introduced many now accepted educational innovations.

The communist colony in New Harmony, Indiana, founded by Robert Owen in 1826, pioneered a pattern in free, equal, comprehensive and secular education that had yet to be realized throughout this country over a century later. From the age of two the children were cared for and instructed by the community. The youngest spent the day in play school until they progressed to higher classes. There the Greek and Latin classics were discarded; practice in various crafts constituted an essential part of the program. The teachers aimed to impart what the children could most readily understand, making use of concrete objects and avoiding premature abstractions. They banished fear and all artificial rewards and punishments and appealed instead to the spontaneous interest and inclinations of the children as incentives for learning. Girls were on an equal footing with boys.

The educational reformers of the late eighteenth and nineteenth centuries dealt with the two distinct aspects of children's problems. One concerned the claims of childhood as a specific and independent stage in human growth. This perennial problem arises from the efforts of adults to subject growing children to ends foreign to their own needs and to press them into molds shaped, not by the requirements of the maturing personality, but by the external interests of the ruling order. Rousseau had protested against this when he wrote:

"Nature wants children to be children before they are men . . . Childhood has ways of seeing, thinking, and feeling, peculiar to itself, nothing can be more foolish than to substitute our ways for them."

The other involved efforts to reshape the obsolete system of schooling to make it fit the revolutionary changes in social life. These two problems were closely

connected. The play school, for example, was devised not only to care for the specific needs of very young children but also to meet new needs which had grown out of the transformations in the family affected by industrial and urban conditions; it was no longer a unit of production as in feudal and colonial times but became more and more simply a center of consumption.

Dewey's theories blended attention to the child as an individual with rights and claims of his own with a recognition of the gulf between an outdated and class-distorted educational setup inherited from the past and the urgent requirements of the new era.

The educational system had to be thoroughly overhauled, he said, because of the deep-going changes in American civilization. Under colonial, agrarian, small-town life, the child took part in household, community and productive activities which spontaneously fostered capacities for self-direction, discipline, leadership and independent judgment. Such worthwhile qualities were discouraged and stunted by the new industrialized, urbanized, atomized conditions which had disintegrated the family and weakened the influence of religion.

In the city the training of children became one-sided and distorted because intellectual activities were dissociated from practical everyday occupations. Dewey wrote:

"While the child of bygone days was getting an intellectual discipline whose significance he appreciated in the school, in his home life he was securing acquaintance in a direct fashion with the chief lines of social and industrial activity. Life was in the main rural. The child came into contact with the scenes of nature, and was familiarized with the care of domestic animals, the cultivation of the soil, and the raising of crops. The factory system being undeveloped, the house was the center of industry. Spinning, weaving, the making of clothes, etc., were all carried on there.

"As there was little accumulation of wealth," Dewey continued, "the child had to take part in these, as well as to participate in the usual round of household occupations. Only those who have passed through such training, [as Dewey himself did in Vermont], and, later on, have seen children raised in city environments, can adequately realize the amount of training, mental and moral, involved in this extra-school life ... It was not only an adequate substitute for what we now term manual training, in the development of hand and eye, in the acquisition of skill and deftness; but it was initiation into self-reliance, independence of judgment and action, and was the best stimulus to habits of regular and continuous work.

"In the urban and suburban life of the child of today this is simply memory," he went on to point out. "The invention of machinery, the institution of the factory system, the division of labor, have changed the home from a workshop

into a simple dwelling place. The crowding into cities and the increase of servants [!] have deprived the child of an opportunity to take part in those occupations which still remain. Just at the time when a child is subjected to a great increase in stimulus and pressure from his environment, he loses the practical and motor training necessary to balance his intellectual development. Facility in acquiring information is gained; the power of using it is lost. While need of the more formal intellectual training in school has decreased, there arises an urgent demand for the introduction of methods of manual and industrial discipline which shall give the child what he formerly obtained in his home and social life. The old schooling had to be renovated for still another reason. The curriculum and mode of colonial education had been largely shaped by medieval concepts and aims. The schools were controlled by the clergy and access to them was restricted to the favored few, the wealthy and well born. The teacher tyrannized over the classroom, imposing a schematic routine upon a passive, obedient, well-drilled student body.

In *The School and Society* Dewey pointed out how haphazardly the existing school organization had grown up. It was composed of oddly assorted and poorly fitting parts, fashioned in different centuries and designed to serve different needs and even conflicting social interests.

The crown of the system, the university, had come down from medieval times and was originally intended to cater to the aristocracy and train an elite for such professions as law, theology and medicine. The high school dated from the nineteenth century when it was instituted to care for the demands from commerce and industry for better-trained personnel. The grammar school was inherited from the eighteenth century when it was felt that boys ought to have the minimum ability to read, write and calculate before being turned out to shift for themselves. The kindergarten was a later addition arising from the breakup of the family and the home by the industrial revolution.

A variety of specialized institutions had sprung up alongside this official hierarchy of education. The normal or teachers' training school produced the teachers demanded by the expansion of public education in the nineteenth century. The trade and technical school turned out skilled craftsmen needed for industry and construction.

Thus, the various parts of our educational system ranged from institutions of feudal formation like the university to such offshoots of industrial capitalism as the trade school. But no single consistent principle or purpose of organization unified the whole.

Dewey sought to supply that unifying pattern by applying the principles and practices of democracy, as he interpreted them, consistently throughout the educational system. First, the schools would be freely available to all from

kindergarten to college. Second, the children would themselves carry on the educational process, aided and guided by the teacher. Third, they would be trained to behave cooperatively, sharing with and caring for one another. Then these creative, well-adjusted equalitarian would make over American society in their own image.

In this way the opposition between the old education and the new conditions of life would be overcome. The progressive influences radiating from the schools would stimulate and fortify the building of a democratic order of free and equal citizens.

The new school system envisaged by Dewey was to take over the functions and compensate for the losses sustained by the crumbling of the old institutions clustered around the farm economy, the family, the church and the small town. "The school," he wrote, "must be made into a social center capable of participating in the daily life of the community . . . and make up in part to the child for the decay of dogmatic and fixed methods of social discipline and for the loss of reverence and the influence of authority." Children were to get from the public school whatever was missing in their lives elsewhere that was essential for their balanced development as members of a democratic country.

He therefore urged that manual training, science, nature-study, art and similar subjects be given precedence over reading, writing and arithmetic (the traditional three R's) in the primary curriculum. The problems raised by the exercise of the child's motor powers in constructive work would lead naturally, he said, into learning the more abstract, intellectual branches of knowledge.

Although Dewey asserted that activities involving the energetic side of the child's nature should take first place in primary education, he objected to early specialized training or technical segregation in the public schools which was dictated, not by the individual needs or personal preferences of the growing youth, but by external interests.

The question of how soon vocational training should begin had been under debate in educational circles since the days of Benjamin Franklin. The immigrants, working and middle classes regarded education, not as an adornment or a passport to aristocratic culture, but as indispensable equipment to earn a better living and rise in the social scale. They especially valued those subjects which were conducive to success in business. During the nineteenth century private business colleges were set up in the cities to teach the mathematics, bookkeeping, stenography and knowledge of English required for business offices. Mechanics institutes were established to provide skilled manpower for industry.

These demands of capitalist enterprise invaded the school system and posed the question of how soon children were to be segregated to become suitable recruits for the merchant princes and captains of industry. One of the early nineteenth

century promoters of free public education, Horace Mann, appealed both to the self-interest of the people and to the cupidity of the industrialists for support of his cause on the ground that elementary education alone could properly prepare the youth for work in the field, shop or office and would increase the value of labor. "Education has a market value; that it is so far an article of merchandise, that it can be turned to pecuniary account; it may be minted, and will yield a larger amount of statutable coin than common bullion," he said.

Dewey, following his co-educator, Francis Parker, rejected so commercial-minded an approach to elementary education. They opposed slotting children prematurely into grooves of capitalist manufacture. The business of education is more than education for the sake of business, they declared. They saw in too-early specialization the menace of uniformity and the source of a new division into a master and a subject class.

Education should give every child the chance to grow up spontaneously, harmoniously and all-sidedly. "Instead of trying to split schools into two kinds, one of a trade type for children whom it is assumed are to be employees and one of a liberal type for the children of the well-to-do, it will aim at such a reorganization of existing schools as will give all pupils a genuine respect for useful work, an ability to render service, and a contempt for social parasites whether they are called tramps or leaders of 'society.' "Such a definition did not please those who looked upon themselves as preordained to the command posts of the social system.

Each stage of child development, as Gesell's experiments and conclusions have proved, has its own dominant needs, problems, modes of behavior and reasoning. These special traits required their own methods of teaching and learning which had to provide the basis for the educational curriculum.

The kindergarten was the first consciously to adopt the methods of instruction adapted to a particular age group. Dewey extended this approach from pre-school age to primary and secondary schooling. Each grade ought to be child-centered, not externally oriented, he taught. "The actual interests of the child must be discovered if the significance and worth of his life is to be taken into account and full development achieved. Each subject must fulfill present needs of growing children . . . The business of education is not, for the presumable usefulness of his future, to rob the child of the intrinsic joy of childhood involved in living each single day," he insisted.

Children must not be treated as miniature adults or merely as means for ministering to adult needs, now or later. They had their own rights. Childhood was as much a period of consummation and of enjoyment of life on its own terms as it was a prelude to later life. The first should not be sacrificed to the second on penalty of

wronging the child, robbing him of his just due and twisting his personality development.

Socially desirable qualities could not be brought forth in the child by pouring a ready-made curriculum into a passive vessel. They could be most easily and fully developed by guiding the normal motor activities, irrepressible inquisitiveness and outgoing energies of the child along the lines of their greatest interest.

Interest, not outside pressure, mobilizes the maximum effort in acquiring knowledge as well as in performing work. The authoritarian teacher, the cut-and-dried curriculum, the uniform procession from one grade to the next and the traditional fixed seats and desks laid out in rows within the isolated and self-contained classroom were all impediments to enlightened education. Whenever the occasion warranted, children should be permitted to go outdoors and enter the everyday life of their community instead of being shut up in a classroom "where each pupil sits at a screwed down desk and studies the same part of some lesson from the same textbook at the same time." The child could freely realize his capacities only in an unobstructed environment.

The child learns best through direct personal experience. In the primary stage of education these experiences should revolve around games and occupations analogous to the activities through which mankind satisfies its basic material needs for food, clothing, shelter and protection. The city child is far removed from the processes of production: food comes from the store in cans and packages, clothing is made in distant factories, water comes from the faucet.

The school has to give children, not only an insight into the social importance of such activities, but above all the opportunities to practice them in play form. This leads naturally into the problem or "project method" which has come to be identified with the essence of the progressive procedure.

Children soak up knowledge and retain it for use when they are spontaneously induced to look into matters of compelling interest to themselves. They progress fastest in learning, not through being mechanically drilled in prefabricated material, but by doing work, experimenting with things, changing them in purposive ways.

Occasionally children need to be alone and on their own. But in the main they will learn more by doing things together. By choosing what their group would like to do, planning their work, helping one another do it, trying out various ways and means of performing the tasks, involved and discovering what will forward the project, comparing and appraising the results, the youngsters would best develop their latent powers, their skill, understanding, self-reliance and cooperative habits.

The questions and answers arising from such joint enterprises would expand the child's horizon by linking his immediate activities with the larger life of the community. Small children of six or seven who take up weaving, for example, can be

stimulated to inquire into the cultivation of cotton, its processes of manufacture, the history of spinning devices. Such lines of inquiry emerging from their own interests and occupations would open windows upon the past, introduce them naturally to history, geography, science and invention, and establish vivid connections between what they are doing in school and the basic activities of human existence.

Participation in meaningful projects, learning by doing, encouraging problems and solving them, not only facilitates the acquisition and retention of knowledge but fosters the right character traits: unselfishness, helpfulness, critical intelligence, individual initiative, etc. Learning is more than assimilating; it is the development of habits, which enable the growing person to deal effectively and most intelligently with his environment. And where that environment is in rapid flux, as in modern society, the elasticity which promotes readjustment to what is new is the most necessary of habits.

Dewey aimed to integrate the school with society, and the processes of learning with the actual problems of life, by a thoroughgoing application of the principles and practices of democracy. The school system would be open to all on a completely free and equal basis without any restrictions or segregation on account of color, race, creed, national origin, sex or social status. Group activity under self-direction and self-government would make the classroom a miniature republic where equality and consideration for all would prevail.

This type of education would have the most beneficial social consequences. It would tend to erase unjust distinctions and prejudices. It would equip children with the qualities and capacities required to cope with the problems of a fast-changing world. It would produce alert, balanced, critical-minded individuals who would continue to grow in intellectual and moral stature after graduation.

The Progressive Education Association, inspired by Dewey's ideas, later codified his doctrines as follows:

1. The conduct of the pupils shall be governed by themselves, according to the social needs of the community.
2. Interest shall be the motive for all work.
3. Teachers will inspire a desire for knowledge, and will serve as guides in the investigations undertaken, rather than as task-masters.
4. Scientific study of each pupil's development, physical, mental, social and spiritual, is absolutely essential to the intelligent direction of his development.
5. Greater attention is paid to the child's physical needs, with greater use of the out-of-doors.
6. Cooperation between school and home will fill all needs of the child's development such as music, dancing, play and other extra-curricular activities.

7. All progressive schools will look upon their work as of the laboratory type, giving freely to the sum of educational knowledge the results of their experiments in child culture. These rules for education sum up the theoretical conclusions of the reform movement begun by Colonel Francis Parker and carried forward by Dewey at the laboratory school he set up in 1896 with his first wife in connection with the University of Chicago. With his instrumentalist theory of knowledge as a guide, Dewey tried out and confirmed his new educational procedures there with children between the ages of four and fourteen.

This work was subsequently popularized by the leading faculty members of Teachers College in New York after Dewey transferred from Chicago to Columbia University. From this fountainhead Dewey's ideas filtered throughout most of the teachers training schools and all the grades of public instruction below the university level. His disciples organized a John Dewey Society and the Progressive Education Association and have published numerous books and periodicals to propagate and defend his theories.

Dewey's progressive ideas in education have had a curious career. Despite the criticisms they have received from the right and from the left, and even within Progressive circles, they have no serious rival. Today, on the century of his birth, they are the accepted and entrenched creed on education from Maine to California.

Yet this supremacy in the domain of educational theory has not been matched by an equivalent reconstruction of the educational system. Dewey's ideas have inspired many modifications in the traditional curriculum, in the techniques of instruction, in the pattern of school construction. But they have not changed the basis or the essential characteristics of the school system, and certainly not the class stratification of American society.

Such restricted results are not a very good testimonial for the principal product of a philosophy which demands that the merits of a theory be tested and judged by its ability to transform a defective situation,

How is this ineffectiveness in practice to be explained? If Dewey's procedures, ideas and aims are so admirable—as they are—why after fifty years haven't they succeeded in accomplishing more in the spheres of educational and social reform? Why have they fallen so far short of expectations and even become one of the favorite targets of reaction?

Connection between Knowledge, Curriculum and Textbooks

Knowledge seen as a finished product to be transferred into the child's mind also encourages conception of the learner as a passive receptor. Further on, it encourages the thinking that knowledge can be acquired without understanding it,

and it can be understood without developing the ability to use/apply it. Alternatively, we can conceive of knowledge as experience organised, mainly through language, into patterns of thought (or structures of concepts), thus creating meaning, which in turn helps in understanding the world we live in. Human beings, over time, have evolved both a wealth of knowledge in this sense, and also, a repertoire of ways of thinking and constructing more knowledge.

Each new entrant in the field of human thought has to re-create a significant part of this wealth in her own mind. This is important (a) as a basis for further thinking and for acting appropriately in this world, and (b) as examples to learn to participate in the very process of knowledge creation, constructing meaning, and human action. This conception of knowledge allows us to respect the body of knowledge created together with its principles of organization and creation, and, still, allows significant flexibility to look for alternative and better-suited principles. The process of acquisition of knowledge becomes the process of active creation by the learner. The textbook becomes a tool to provide examples, pointers, programs to be perused, and introduction of principles. The increased information flow becomes an object of interest in the light of general principles to accommodate in the existing body of knowledge, and also becomes a challenge to necessitate reevaluation of principles and reorganize the existing body to make a better sense of the new information. Therefore, the increased flow of information becomes illuminating rather than daunting. The burden of non-comprehension can be substantially reduced, and informed choices regarding what to include and what not to become possible with this altered conception of knowledge as the basis. From this perspective, grasp on the ways of creation of knowledge and its validation, organization, and bringing to bear upon decision making and action become more important in order to achieve aims of education than mastering a vast repertoire of information. It points to a very dynamic engagement with the world through observing, feeling, reflecting, acting, and sharing as a way of knowledge acquisition.

Active Engagement of Learners is Important for Construction of Knowledge In order to construct their own knowledge, learners need to be actively engaged. Active engagement refers to engagement of body and mind. A number of physical activities involve engagement of the mind, but some physical activities, especially if those do not require any simultaneous mental application, could also be as un-engaging and mechanical (therefore, mentally passive) as copying something from the notebook or blackboard is, or as the process of rote-memorization is. The repetitive acts of copying and rote-memorization do not lead to conceptual understanding and analytical capacities.

According to guiding principles of NCF-2005, the content of curriculum should base the reality i.e. real life of the children outside and inside the school. In the present

contexts there are new developments and concerns to which our curriculum must respond. The children should not only be admitted in the school, they should be retained until they attain the desired level by experiencing dignity and the confidence to learn. Curriculum design must reflect the commitment of UEE. It is to be assured that beside the other groups, the children from difficult social and economic background with variation in physical, psychological and intellectual characteristics are also learning and achieving success.

The mental development of the child includes the development of his intellect, mental capabilities, imagination, thinking, emotion, volition and other mental processes. The teacher's duty is to assist the child in the development of his abilities through the textbook/learning materials during classroom transaction. Curriculum is, perhaps, best thought of as that set of planned activities which are designed to implement a particular educational aim —a set of such aims—in terms of the content of what is to be taught and the knowledge, skills, and attitudes that are to be deliberately fostered, together with statements of criteria for selection of content, and choices in methods, materials, and evaluation. In reference to the framework above, it would mean the 'curriculum core' and 'syllabus' put together.

Syllabus: It refers to the content of what is to be taught and the knowledge, skills, and attitudes that are to be deliberately fostered, together with stage-specific objectives.

The curriculum details provide the teacher with actual tools of classroom practices, while the curriculum core provides a rationale, up to a certain extent, for adopting those practices. Thus, the classroom practices can be connected with the larger goals of education. It could be plausibly argued that this conceptual structure enables the teacher to create a dynamic 'discourse' between theory and practice, and between educational ideals and educational practices. When a teacher starts working with children in classrooms, he/she has some 'content' that he/she wants to teach them. They also have, at least in their minds, some 'methods' of teaching. They also use some material, minimal or elaborate, and have some idea about what it would mean to 'have learnt something' and what would be the appropriate indicators of that learning. I n other words, they have a syllabus, appropriate methodology, a set of teaching–learning material, and a system of evaluation. That is the minimum academic preparation to embark upon teaching.

Textbook: Understanding that the textbook is only a tool, a convenient organizational mechanism to collect together at one place what the children are expected to learn, and awareness of the conceptual difference between the syllabus and the textbook are the two important conditions that enable the teacher

to look beyond the textbook. The possibility of experiences of children being considered within the classroom gets a little boost with this distinction. In turn, the possibility of choice between the textbook and other experiences/resources encourages reflection on the choices made and, eventually, on the possibility of an improved textbook itself. Similar arguments could be made concerning conceptual distinction of teaching methods, evaluation, and between textbook and other material. The point being deliberated here is development of reflective teaching practices is a necessary condition for learning from one's own experience. Reflective practices necessarily require theoretical models to organize experience into knowledge that can be shared, publicly examined, and used in situations other than in which this knowledge arises. It can also be argued that there is no teacher who does not have the ideas of syllabus, pedagogy material, and evaluation. But there are very few who have them well articulated, rigorously examined, and reasonably justified on the basis of more general and widely shared principles and assumptions. Also, there are very few teachers who have rigorously worked out implications of the ideas held by them for classroom practices. The teachers are neither expected to make these distinctions nor provided with any opportunity to do so. Introduction of theoretical models, of which there is a variety, is a potent way of engendering reflective practices and encouraging autonomy of the teacher. The question is not what particular model does one have; it is whether the model an educator has can be shared with others and debated about. However, linking classroom practices with syllabus, pedagogical choices, variety of teaching–learning material, and evaluation system is just the first step towards reflective practices. What is being taught, how, with what material, and how the learning shall be assessed can be explained and reflected in terms of syllabus, etc. But, what forms the basis for the choices made in syllabus, pedagogical decisions, textbooks, etc.? We have seen that what we called curriculum should detail the reasons for these choices. But, those reasons themselves may require further explanations and grounds for accepting them.

Pedagogical perspective and concerns of Inclusive Education

Inclusive education is an on going process aimed at offering quality education for all while respecting the diversity and the different needs and abilities, characteristics and learning expectations of the students and communities, eliminating all forms of discriminations. (UNESCO, 2008, p3)

Children may have both defects and abnormality. The general system of education is devised for the average and normally healthy children. As a resultof which, it cannot incorporate the development of abnormal children since they need special arrangement.

A modern teacher is concerned not only with the development of a majority of average children, but also with the development of brilliant, backward, defective and disabled children.

Hence, the system of education should also provide for such children. Unfortunately, many circumstances conspire to make provision of such facilities impossible in all schools. But the teacher should definitely be aware of the defects and abnormalities that obstruct the normal development of the child.

Kinds of disabilities: The most of the defects are physical and mental and it hampers the social, cultural and emotional growth of the children.

The different kinds of disabilities are –

(a) disabilities of sight or vision
(b) disabilities of ear or hearing impaired
(c) loco motor disability
(d) learning disabilities
(e) multiple disabilities.

Therefore, it is necessary to teach all children together under the same roof of the school, so as to fulfill the constitutional obligation of education to reach universalisation of elementary education. And, it will be possible only through integration which is called the 'Inclusive education'.

Pedagogical perspective: Pedagogy reflects the values of individuals, teachers and the wider culture and is a long way from the simplistic 'inputs', outcomes and processes which usually make up pedagogical quality indicators. So, the pedagogy is defined as the observable act of teaching together with its attendant discourse of theories, values, evidence and justifications.

The teacher in inclusive settings must provide the appropriate content, clear instructions for practice, opportunities to practice at an appropriate level of difficulty, opportunities to participate in appropriately designed task, progressions and accurate feedback and assessment of subject matter and role performance.

The teacher needs to be disabused of the idea that they are not capable of teaching all learners. Therefore, the teacher should be trained to teach the disabled children so that they are fully acquainted to know what to teach and how to teach and also know how to learn and make decisions informed by theory and researches and by feedback from school and classroom evidence in particular context.

The pedagogy is the best thought of in terms of knowledge as well as skill. Though there is a great deal of literature that might be seen as 'special education knowledge' the teaching approaches and strategies are not sufficiently different from those used to teach all children.

Teachers require support to use their pedagogical skills more effectively in different situations to meet the needs of all learners and understand that inclusive practice is about more than 'differentiation'. It is necessary to develop a frame work to support teachers in innovative thinking about learning.

The teacher should consider the following points while teaching the children as given below –

(1) Making connections between contextual classroom factors
(2) Taking a learner's eye view, seeking to understand the meaning of activities.
(3) Noting the impact of their own feelings
(4) Postponing judgment in order to find out more when evaluating a learner's progress.

The teacher needs to see what inclusive teaching actually look like and explore ideas with some one who can help them understand the difference between what they are doing and what they aspire to do.

Through the help of pedagogical perspective the educational institution can grow the self confidence and self dependence in the minds of the disabled children.

The teacher should try to behave all children alike and after that they try to know the difficulties of the disabled and help them learning through various group activities so that they can share their feelings with peer groups.

The teacher should try to identify the problems faced by the different groups of disabled children then try to help accordingly.

The parents and the teacher both should respect and love the disabled children while dealing with their problems and take measures to overcome their limitations, so that they can ensure the right of education.

In this way the integrated education help the disabled in mainstreaming their lives.

Everyday concept and situated cognition:

What is concept: Concept means a general symbol representing some particular experience. Thus, the child develops different concepts at different stages of development. The concepts multiply with the increase of experience.

In the beginning, they are simple because the nervous system and sense organs of the child are underdeveloped. In the beginning, many of the child's concepts are

illusory and wrong. It is difficult for the child to form right concepts unless he has attained sufficient experience.

Development of concepts in the child: The development of the concepts in the child depend on the following factors –

(1) Interest and attention: Up to the age of 3 years, the child cannot concentrate for more than six seconds. At the age of 5 years, this limit is increased up to 13 seconds. After that the child can attend to complex problems too. The duration and span of his attention increases. These are intimately related with his interest. Besides, the motives also affect attention.

(2) Physical adjustment : As the child manipulates different things in his environment his physical adjustment increases. This adjustment leads to such experiences which cannot be attained by means of sense organs only. For example, he learns to distinguish between different qualities concerning the sensation of touch.

Questions of the children : The child tries to understand his environment by asking questions to his parents, teachers and adults. This tread starts at the age of 3 years and continues up to the age of 6 years. The answers which he gets to his questions lead to the formation of various concepts. It is therefore, necessary that the child should be given correct answers to his questions, otherwise he will form wrong concepts about different things. Most of the questions of the child are concerning – what, why, how and when.

Factors influencing the child's concept:

The formation of concepts in the child is influenced by several factors as given below –

1. Defects of the sense organs : The experience o the child attains by means of his sense organs. The defects of the sense organs influence his concepts. For example, the deaf children do not develop the concept of sound and the colour blind children have no concept of colour.
2. Intellectual ability: the conceptual knowledge of the child increases in proportion to his intellectual ability. It leads to the formation of new concepts.
3. Opportunity of learning: the concepts in the child's mind develop in proportion to the opportunities of learning which he gets. Thus, as the child learns more and more he forms new concepts of different things.
4. Experience: Both direct and indirect experience helps in the formation of concepts. Hence, the child's concepts are less accurate in comparison with the concepts of the adults. The experience increases with age, through the

extra –curricular activities. Hence, the child's mental development is influenced by his socio-economic status.

5. Influence of class: The conceptual development of the child develops with the rise in socio-economic class. It is because, in the higher socio-economic status, the child comes into contact with more things and gets more varied type of experiences.

Everyday concepts and formation of cognition:

The different kinds of abilities and efficiencies are necessary to solve the problems faced by the children in different environment, as in the classroom, at home or in the society. Therefore, it should be the aim of education to develop these abilities and efficiencies in the minds of the children.

These abilities and efficiencies can be defined in three main parts as –

(a) Cognition (b) Conation (c) Affection.

Development of cognition: The development of cognition in the minds of the children depends upon the following factors as – (i) Knowledge (2) Comprehension (3) Application (4) Analysis (5) Synthesis (6) Evaluation etc.

Development of some important concepts :

An analysis of some important concepts in the child's mind will give an idea about his development of cognition.

1 . *The concept of self:* The infants develop some types of concept of self at the early age of 6 months though he cannot put it in language. At the age of 2 ½ years he can recognize different parts of the body. Tarmar said that a 3 years old baby can tell his name and know his sex. Between 3 and 4 years of age the child pays more attention to himself. At the age of 4 years, the child can recognize himself as an individual and distinct from other children. That means, he forms concept connecting his inner life i.e. feelings, attitudes and ideas.

2. Concept of space: The concept of space plays an important role in perception and conception. Even a small child can distinguish 'here' and 'there', right and left, fore ward and back-ward, and different directions. Gradually his experiences with the parents at home, teacher in school and community, he forms concept of large distances of spaces etc.

3. Concept of time: Before going to school he learns the names of different days in the week and at the age of 8 years he can tell days and months. Now he can see the watch and tell the time.

4. Concept of form and colour: A child below the age of 3 years can recognize forms and colours. At the age of 6 years, he can combine different forms. He can gradually recognize his parents from other persons. Playing with the toys a child can learn the concept of form and colours.

5. Concept of numbers: A child can recite numbers between 2 and 3 years of age. A child of 4 years can count the numbers. A child of 5 years can count up to 4 numbers but at the age of 6 years he can count up to 12 things. He can count also numbers up to 100. at the age of 7 years he can add, subtract, division and multiplication and up to the age of 9 years, he develops numeral concept up to 1000.

6. Concept of weight: In the beginning, the child connects weights with size and things – bigger things have more weights. Gradually he learns to distinguish between size and weight.

7. Concept of currency : The concept of currency develops only when he starts using it. He learns to distinguish between different coins and they become meaningful for him.

8. Concept of causation: At a very early stage, the child knows that he has to behave differently with different persons. He knows which cause leads to a particular result, because at the age of 2 – 4 years he knows what type of behaviour is expected of him towards different persons. By experiencing with different things, the child is able to form the concept of causation. These are concrete concept not the abstract causation.

Learners in context – NCF-2005

In a traditional classroom, children's voices and experiences do not find expression, often the only voice heard is that of the teachers. When children speak, they are usually only answering the teacher's questions or repeating the teacher's words. They really do things nor do they have opportunities to take initiative.

The curriculum must enable children to find their voices, nurture their curiosity – to do things, to ask questions and to pursue investigations, sharing and integrating

their experiences with school knowledge, rather that their ability to reproduce textual knowledge. Re-orienting the curriculum to this end must be among our highest priorities –informing the preparation of teachers, the annual plan of schools, the design of textbook , learning materials and teaching plans and evaluation and examination pattern.

Children will learn only in an atmosphere where they feel they are valued. Our schools still do not convey this to all children. The association of learning with fear discipline and stress rather than enjoyment and satisfaction is detrimental to learning. Our children need to feel that each one of them, their homes, communities, languages and culture are valuable 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. We are aware of the importance of the need of expanding schools including children from all sections of the society. Mid-day meal, provision of infrastructural support and pedagogic concern for inclusive education is the most significant development in recent times. Physical and economical security is needed for all learning.

ALTERNATIVE FRAMEWORK OF CHILDREN THINKING:

Thinking and creativity, these two mental processes are very important for the education of children. The aim of thinking is problem solving. Thus, thinking starts from same problem and it culminated in the solution of it. The children have to exercise in thinking in order to solve their own problems. The child's thinking however, can be distinguished from the adults.

The mental development comprehends the development of intellect, mental capabilities, imagination, thinking, emotion, volition and other mental processes. The teacher's duty is to assist in the development of his abilities. Thus, development is education.

To know, experience and to reach decisions are the main function of human brain. It is the function of the teacher to see whether these three activities of the child developed as completely as possible. Mental education is concerned in knowing, experiencing and reaching a decision. The process of learning comprehends perception and cognitive knowledge. The individual makes use of an object in its absence through employing his imagination and memory. Knowledge also includes reasoning and deciding.

It is for the teacher to help the young child in perceiving, imagining, reasoning and reaching decisions. It is equally the duty of the teacher to understand the child's problems and to look at them from the child's view point. Therefore, at this time the teacher can make choice of alternative method on frameworks of children's

thinking area he is not able to come to a decision as can not solve the problem in an usual way he works.

Education and thinking process:

Education is a process of human development. Intellectual or mental development is possible by improving the power of thinking. For improving thinking processes the teacher should try to understand his students and the devices for better thinking. Teaching and instruction are planned and organized for improving the power of thinking.

The following are the main devices which are being used for improving the power of thinking –

(i) Objectives of teaching – learning and instruction: The objectives of teaching learning and instruction are formulated for developing and improving the power of thinking. Type of thinking is based on the stage of growth and development of students. Because there are separate needs and interest of each stage of the development of the children.

The child's need, interest and mental development are taken into consideration for the formulation of objectives. The objectives of teaching and instruction involves the process of thinking.

(ii) Curriculum development – Mental development in children is also influenced by the curriculum adopted in the various schools in which they study. A study of mental development in children has revealed roughly the various subjects that child should be required to study at various age levels. Putting to great strain on him in the form of exercise book can only hinder and obstruct his mental development.

Secondly, if the curriculum is such that the subjects taught are dry, arid and mechanical, the whole process becomes a burden. Fear or failure in the examination compels him to learn enough material to ensure the success, but his mind does not approach towards the goal of complete development. Therefore, the teacher has to organize his teaching task in the classroom according to the guideline of the curriculum. Thinking processes are basic consideration for developing curriculum.

(NCF-05 may be included)

(iii). Preparing textbook and instructional materials – The books and instructional materials are meant for the child development. The content material is organized so that it will suit to the learner thinking. The logical arrangement of content should be psychologically workable. The examples and illustrations are used to encourage inductive or deductive thinking process.

(iv). Methods and techniques of teaching – The method and techniques have been developed in view to develop power of thinking. The question-answer technique

is most commonly used to make the child' attention and think over the content which is being presented in classroom.

The inductive and deductive methods of teaching are indispensable in teaching-learning process. These methods involve inductive and deductive thinking process in teaching-learning process. These methods include the techniques which are also useful for improving thinking processes i.e. known to unknown, previous knowledge or entering behaviour is basis for teaching. Illustration should be related to children's life situations. Such situations improve the power of thinking.

(v) Models of teaching (TLM) – Models of teaching have to be developed for improving different types of thinking processes. The ever line method of teaching improves the power of divergent thinking and problem solving ability or thinking. The laboratory model improves perceptual and conceptual thinking. It is related to scientific thinking and empirical thinking. Thinking is crucial for human development.

(vi) Evaluation and diagnosis – The type of test items involves the types of thinking process. If the child has improved and developed the power of thinking he will be better in examination. The test items involve convergent and divergent types of thinking. Essay type examination provides freedom but objective type is rigid. The diagnostic tests are used to identify the cause of weakness which is related to thinking process and which could not be developed adequately.

<u>According to RTE, 2009</u>: Comprehensive and continuous evaluation of the child's understanding of knowledge and his/her ability to apply the same [under section 7 (b)]

<u>According to NCF-2005</u>:

The purpose of assessment – The purpose of evaluation of providing feedback on scholastic and co-scholastic development can be achieved only if the teacher is prepared even before the course of teaching with not only the techniques of assessment but also the parameters for evaluation and kinds of tools that would be employed. In addition to judging the quality of students' achievement, the teacher would also need to collect, analyze and interpret the performance in various items of the assessment to come an understanding of the extent and nature of students learning in different domains. The purpose of assessment is to improve the TL-process and materials and be able to review the objectives that have been identified for different school stages and also judging the capabilities of the learners have been developed.

It is necessary for the teacher to maintain daily diary based on observation which helps in CCE.

It is also the duty of the teacher to pay attention to the students' during their everyday teaching and interaction. It will help the teacher to prepare the report cards on the basis of which the learners can improve his learning.

(vii) Remedial teaching and Instruction – The diagnosis provides sources of weakness related to thinking process. The logical and sequential thinking operates in learning process. The sequential point of weakness require remediation for developing adequate power of thinking which may complete the sequential chain of thinking and learning.

According to NCF-05, the term 'remediation' needs to be restricted to specific special programmes that enables children who are having a problem with literacy, reading, numeracy etc.

Remedial work would require specifically developed materials and planning so that the teacher is able to give one –on –one time to work with child, beginning with what she/he knows and moving to what she/he needs to learn through a continuous process of assessment and through careful observation. Indiscriminate usage of the term 'distracts' from the general problems of effective pedagogy and make the child solely responsible for his/her learning and also learning 'failure'

(viii) Co-curricular activities: According to the modern psychologists complete mental development of the child can not be achieved only through study, since formal education alone does not provide occasions for the practice of all mental skills and abilities. Thus, most modern schools provide opportunities of debates, quiz, picnics, travels, tour to historic and important places, gardening, scouting, NCC, dancing, music, painting, acting and formal students' union. Such programme help in the improvement of both mental abilities as well as the various aspects of child's personality.

(ix) Administration and discipline : For the proper mental development of children , it is essential that the schools in which they study should be properly administered but teachers should be advised maintain discipline through love, affection and sympathy rather that through corporal punishment.

According to RTE, 2009 education should be free of fear, trauma and anxiety to the child. There can be no corporal punishment. There can be no mental harassment. Teachers' training is not only for the subjects, he/she taught but teachers' training will require behavioural orientation of the teachers to meet the requirement of this Act.

Methods of enquiry:

The child is extremely curious in early age. He likes to enquire different things in order to know more about birds & insects, about clouds and stars, about animals and

about everything, he comes across. This instinct is very powerful among children and helps them to understand their environment.
The childhood is an age of exploration and children turns things over, break things, cleans trees, wade in nature and do scores of other things to satisfy their thirst for knowledge. Curiosity has been called the mother of knowledge and no doubt the vast body of knowledge which ever has acquired in the field of science, art and philosophy, laboratories, libraries, research institution he has built are a living monument to the universal impulses to know and investigate.
But curiosity may wrongly develop into idle inquisitiveness, a bad habit of asking questions just for the fear of it or of probing into other people's affairs. It is clearly the responsibility of education to guide and direct this impulse for knowledge and useful channels and transform it into habits of intelligence and constructive thinking.

Scientific thinking:
Psychology is a positive science of human behaviour. As a science its aim is to describe, predict and control human behaviour. In psychology, an attempt is made to discover the general principles of reaction between the individual and the environment. The psychologist makes use of scientific techniques in this discovery.
Science is a systematic study of a limited area. In order to be scientific, a study must be confined to a limited area and it should be systematic, regulated under a well defined pattern. Above all, it is the use of scientific techniques that makes any study a science.
The scientific method requires extreme patience, courage, dedication, sustained application, creative imagination and objectivity. With out a scientific outlook and dedication it is not possible to use scientific method properly. Before applying the scientific techniques the problem must be thoroughly understood and must be well defined. There are some steps of scientific method and these are – observation, classification, generalization and verification.
Scientific thinking is related to the object and its structure. Perceptual thinking is also related to concrete object but does think about its structure. The main focus of this type of thinking is to establish cause-effect relationship between the elements of the object and attempts to evolve its structure objectively. The questions 'what', 'why', and 'how' are answered with the help of scientific thinking.
There are various components which are involved in the thinking process. There are signs and symbols, concepts, motor activities, images and experience and mental operations.
Symbols and signs represent and stand for substitutes for the actual object, experiences and activities. In this sense, they are not confined to words,

mathematical numerals and terms. Traffic light, railway signals, school bells, badges, songs, flags and slogans are all forms of symbolic expression. These symbols and signs stimulate and economize thinking. They at once tell us what to do or how to act.
For example, the waving of the green flag by the guard tells us that the train is about to move and we should go on the train.

Motor activities: Thinking is one way or the other shows evidence of the involvement of some incipient movement of groups of our muscles. There are slight muscular responses when we think of a word, resembling the movements used when we say the word aloud. A positive correlation has been found between the thinking and muscular activities of an individual. The more we engage ourselves in thought, the greater is the general muscular tension and conversely, as we move towards a state of muscular relaxation, our thought processes are also gradually filled.

Social scientific thinking:
Social development: It refers to the ability of the child to establish relationship with persons in his/her environment. As an infant, strong ties are established between the child and his caretaker, generally mother, father or other family members. It may be mentioned that the quality of relationship between parents and the child determine his/her behaviour later in life as an adult.
As the child grows elder, relationship with peers and visitors in the family are established. By the age of two, group behaviour among children begins. The horizon of school child is more wide. Young children are likely to be more co-operative and friendly than competitive and hostile. Group loyalties are formed near adolescent age. By interaction with the members of his/her group, the child develops an image about herself/himself (self concept).

Integrated personality: The different aspects of development do not occur in isolation rather they are inter-related and to some extent interdependent. Motor development makes the child mobile, increases his/her range of activity and helps him/her to explore the surroundings. This helps in cognitive development. Language development helps the child to communicate better. It also allows the child to interact with more people. The interaction involving child's social interaction. has a significant on the child's social development. If all these development are adequate and at the right time the child feels confident of himself/herself later in his/her life.

Social group: The behaviour of students in a class in the groups is the area of social psychology. This field of psychology deals the behaviour of an individual in group.
The social psychology is a scientific field that seeks to investigate the manner in which the behaviour, feelings or thoughts of an individual are influenced or determined by comparing with the group behaviour or the characteristics.

Meaning of group: The class or group is a collection of individuals, each of whom be taught. It is a social group. It has its own structure. It is an organization of forces, which brings unity and coherence. The class has its norms of behaviour or performances. It is a planned and well organized interaction. It has its own leader i.e. the teacher. The class can influence on its member.
A teacher always deals with some actual class of students. He has several opportunities to help the students develop skills in working into class. Experience in such group work is inevitable. A teacher can make sure by providing little guidance that group experience is useful. The teacher may be able to use a few powerful group forces to accomplish other purposes, such as the development of desirable attitude, values or the attainment of social maturity.

Identification & interaction: The child entering school brings with him a host of anxieties, desires, fears and attitudes which he has learned and found rewarding from his parents and family.
In this context, the actions of the teacher are likely to influence strongly the subsequent attitudes toward school and teacher.
As the child matures, his increased contacts exert influence on his values, the amount and direction of such influence depending on the reinforcement system and interaction procedure.
If psychological needs of the child are satisfied he will tend to identify positively with teacher and modify his value system under favourable environment, the acceptance generalizes from the teacher to the school. It is greater success in transmission of subject matter and even retention and transfer of learning.
The most important way of social learning and interaction is the imitation of desired behaviour. Any correct or desired behaviour of the students must follow immediate reinforcement or reward and incorrect or undesirable response must be withheld.
In the same classroom, there are different types of children. Some are isolates, some average and some are bright children. The teacher can identify the children accordingly as isolates, bright or average and can take help of the bright children to solve the problems of classroom situation and can adjust the isolates. In this regard the teacher should take them in confidence. The teacher should try to identify their problems by discussing with them. Some test could be used to locate

their problems. The physical, psychological and educational tests should be used for the diagnosis purpose.
The teacher should make moderate praise of the isolates when ever they succeed in some school work. The teacher must find out those skills and hobbies in which isolates show some promise and should try to develop them.
The relations that develop between classmates have obvious importance. Friendship are precious in their own right. For children little parental support, a rich friendship pattern can do much to make good this deficit. The teacher also looks out the problems of drop-outs & delinquents so as to adjust them in the classroom environment. The teacher can organize educational tours, picnics and excursions to bring the students more close to each other. These activities give an opportunity to understand each other and improve the emotional and social climate of the class as a group.
The scientific and objective system of observation has been developed by Flarders and others to analyze the instructional procedure in the classroom. The classroom teacher behaviour also includes the student participation in teaching-learning process.

Mathematical thinking
The contents of mathematics just as of any other subject must be intimately correlated with life. Therefore, the curriculum of mathematics should be constructed keeping in view of the physical and social environment of the children.

Thinking is described as a problem-solving behaviour. From the beginning till end there is some problem around which the whole process of thinking as mental exploration of the data, to deal with the environment effectively.

Thinking makes use of percepts, images and concepts. As for example, say if the teacher asks the students – are camel herbivorous animal? This question sets students' thinking of 'all cloven footed animals are herbivorous'. As all camels are cloven footed, therefore all camels are herbivorous. Now, we have three concepts camels, cloven-footed animals and herbivorous. We connect the first concept through the medium of the second, which serves as the middle term. Here concepts are the tools of thinking.
Mathematical reasoning is carried on with the aid of symbols and signs that stands for abstract concepts. There are signs of addition, subtraction, multiplication, division etc. thus, reasoning passes from the concrete to abstract.

Concept of number: A child can recite numbers between 2 to 3 years of age. A child of 4 years can count two things while a child of 5 years can count of four and

that of 6 years can count 12 things. A child of 6 years can count numbers up to 100 at the age of 7 years, he can add and subtract numbers and solve simple questions of multiplication and divisions. At the age of 9 years, the child develops numeral concept up to 1000.

Concept of weight: In the beginning the child connects weights with size and thinks bigger things to have more weights and knows that the weight of a thing can not be determined unless it is taken up by hand.

Concept of currency: The concept of currency develops only when the child starts using it. He now learns to distinguish between different coins and they become meaningful for him. Even before going to school, some children collect coins given to them. After going to school, they learn to spend them. At the age of 6 years the child can recognize different coins separately. A child of 5 years of age does not know the relationship between coins and cost. Within 2 years he understands that he can secure many things and services in exchange of coins.

Concept of time: The child lives in the present. Before the age of 3 years 'tomorrow' has no meaning for him. it is only after it that he begins to distinguish between 'now' and 'then'. He gradually distinguishes between yesterday and tomorrow. Before going to school he learns the names of different days in the week. Though he has no knowledge of months in a year it is the age of 8 years that he can accurately tell days and month. The child has not learned to see the watch and tell the time. Before the age of 12 years he can not understand the relation between times and units of long duration.

Development of Reasoning:

The child starts reasoning at a very early age, but his reasoning is different from the adults. Reasoning means inference of unknown things on the basis of known facts. It may e deductive i.e. from general to particular or inductive i.e. from particular to general. Both these types of reasoning can be seen in the child's thinking.

Inductive & Deductive thinking:

This type of thinking is commonly used in organizing teaching-learning situations in classroom. Inductive and deductive methods of teaching are the most classical methods based on this type of thinking. This type of thinking involves two types of elements – rules or principle and examples or illustration.

In inductive thinking, several examples are presented which have some common elements, this elements is identified through inductive thinking.

In deductive thinking, a rule or principles is presented first, after that the rule is illustrated with suitable examples.

If a teacher draws different types of triangles and asks students to measure its angles and find the same total of three angles of each triangle is equal to 180° . it may be concluded on the basis of inductive thinking that the sum of three angles of a triangle is equal to two right angles.
If a teacher says to the students that the sum of three angles of a triangle is equal to two right angles or 180°, it may be concluded on the basis of inductive thinking that the sum of three angles of a triangle is equal to two right angles.
If a teacher says to the students that the sum of three angles of a triangle is equal to 2 right angles or 180°, he asks his students to draw different triangles and measure its sum of three angles of each separately. They would find that in each triangle, sum of its three angles is equal to two right angles.

(a) Example-1 /example-2/example-3 ..... → Rule or principle
(b) Rule or principle → Example-1 /example-2/example-3 .....

This type of thinking has wide application in teaching and instruction. Even the frame of programmed instruction employ this type of thinking.

Logical thinking: It is the highest form of thinking. In this type of thinking, the person employs mental images and various concepts with a definite objective and links them together in a logical order. It relates to future plans. The future oriented thinking by involving logic and mental images is called logical or imaginative thinking.

Child and Adults misconception

The mental development of the child comprises the development of his intellect, mental capabilities, imagination, thinking, emotion, volition and other mental processes.

The influence of social environment affect the mental development of the child (having grasped this simple fact the sensible teacher searches the environment for an explanation of difficulties that arises in the mental development of a children). The mental abilities of children can be developed further to the best advantage under certain social circumstances.
The average person is a normal person, who is well adjusted to the social environment. Failure of adequate adjustment to the social environment is the cause of mental conflict.
When a conflict of motives faced and resolved, it does not produce any mental disorder. But when motives are obscure, unrecognized, irrationalized or disguised, they are unconsciously depressed and produce mental disorder.
There are various causes of mental conflict. Some of these are as follows –

(1) Family conflict: The child depends upon his parents for security and affection. He/she not only depends upon them for food, shelter or cloth but also protection and love. Parents' unwanted behaviour as frequent punishment, scolding in no matter, pressuring all the time even preschool children to learn numbers, letters, shapes and so on, lead the child to feel that he is unwanted or rejected by his parents. Unfortunately, this parental concern for children's intellectual development often seems greater than their concern for children's feelings, interest and attitudes. To force the young children to learn specific content may produce an aversive attitude towards academic learning in general. This attitude of distaste may effect the young children in academic achievement.
Therefore, the parents should see that no child is unduly harsh, aggressive and nagging. If the parents are over protective, the child becomes extremely dependent and cannot think for himself. On the other hand, excessive freedom to the children may make them spoilt.
These are the common misunderstanding about the thinking and learning of young children that seen to be current today. It is particularly true for young children and a few for older ones.
One of other misunderstanding about young children is that they are most like adults in their thinking and least like us in their feelings. But it is a great misconception. The parents and the teachers should regard a child's thinking process as similar to their own. As for example, to perform a simple pencil maze, the younger children puts pencil to paper and tries to find the right path, but the adult first studies the maze and only after he has mentally decided on the right path , he puts pencil to paper. Another example may be – a child asks 'why is the sun hot?'. His father is likely to explain that the sun gives off light and that it takes heat to produce the light. The relation between heat and light is not obvious,

however and the young child would hardly understand because he asks the purpose of the sun's heat. So the answer will be – 'to keep us warm'. These answers are not entirely incorrect because the young child's belief is that everything ahs a purpose.
The second misunderstanding about young children is that they learn best while sitting still and listening. But the misconception arises when the parents tend to generalize from their experience as adults. It is true that the adults often learn by listening attentively to a lecture or reading a book.
But the young children is not capable of thinking in the same way as an adult. He learns through engaging in real actions involving tangible objects such as blocks or dolls.
The third misconception is the children inability to learn general verbal rules as not to hot his younger at home and the friends in the school and also not to break the teaching-learning materials during classroom transaction etc. these prohibition against hitting or breaking etc. as for *example* – he is unable to realize to instances. He can not internalize the thought and the rules both. He learns best only through playing with the manipulating materials in his environment.
In contrast, what children acquire through active manipulation of their environment is the ability to think.
(2) Sex conflict: Adolescence is the period of storm and stress. The sexual impulses appears at this stage due to secretion of the hormones at the sex glands and at the hormones of the pituitary gland.
Hence, the sense of guilt is attached to the sexual need by the adolescence due to elders' treatment of the sexual matters as secret.
The adolescents should build up their physiques and develop their minds, but pursuing their intellectual activities.
The certain expression of the sexual impulses of the children are normal therefore, either the parents at home or the teacher in the school should not create worry or anxiety unnecessarily.
They should know their abilities and should not set up too high ideals which they cannot realize.
The gap between their abilities and achievements is the cause of their frustration and produce mental conflict. They should tell their difficulties to their parents and teachers and take their counsels.
(3) Cultural conflict: The clashes between the teachers and students, parents and their sons, authority and freedom, competition and cooperation, self assertion and submission, inadequate abilities and status, ideals and goal such as becoming engineers, professors, lawyers, business men and the like are the causes of mental conflict.

Besides the different clashes between communities in the society may effect the children's mind which also make harm and effect their education. It destructs the creativity of the mind of the children. Obviously, then repression can prone to be a very big obstacle in the path of children progress.

Influence of IQ: Some have a common belief that parents and teachers can raise children's IQ. To be sure IQ is affected by environment but most middle class children have probably grown intellectually about as rapidly as their endowment parents. Further, enrichment is not likely to have marked effects upon their intellectual ability, although it may affect how they make use of this ability.
Children who have been intellectually deprived can however make significant gains in intellectual performances as a consequence of intellectual enrichment.
For example, just as a child who has grown up with an adequate diet will not benefit much from dietary supplements and a child whose diet has been deficient will be an intellectually well nourished child.

Roles of parents and teachers:
Every teacher and parents must know that the nature and changes emerging in transition period from childhood to adulthood. They must also know the various problems fraught with the developmental characteristics to deal effectively with the problems of adolescents so that proper individual, educational and vocational guidance may be provided for adequate adjustment in the society.
In childhood:
A child needs love and security from the parents. So the parents should try to give sufficient time to take care of him and to keep warmth relationship with them.
Regarding the difficulties faced by the children at home or in the school the parents should listen to their counsels to solve them.
A confident relationship with the parents helps a child in resolving conflicts and making proper adjustments. Relationship with their siblings at home and peers at the classroom and in the society should be encouraged to grow a desirable personality in future.
In adolescence: The adult should know himself, his abilities and defects and set up an ideal which is realizable by him. he should not pursue an educational career which does not suit him and Endeavour to realize an unrealizable goal. He should choose a career that fits in with his abilities and take the help of vocational guidance.
Adolescence period is transition from childhood to adulthood. A major part of the population ranges between the ages 13 to 21 years. The national development in different fields depends on the proper education and guidance of adolescents.

Every teacher and parent must know about the nature and changes emerging in transition period from childhood to adulthood. They must also know the problems with developmental characteristics to deal effectively with the problems of adolescents. It is necessary to help them by the parents, teachers and counselors in solving their difficulties. The parents should take proper care of his health. The adolescents should play games with his companions and attend social function so that he can build up a healthy and strong physique as well as character.

Misconception/misunderstanding:

Adolescence :

1. It is the period of storm and stress
2. The adolescents are rebellious in nature
3. There is rapid growth during adolescence period
4. Adolescents are awkward in physical appearance
5. Adolescents have interest in opposite sex
6. Adolescents have no place in the society
7. Besides, adolescents possess shift in group belongingness, conflicts in motivation, cognitive differentiation, intensification of self awareness.

PROFICIENCY IN ENGLISH

1. *What is a language – first, second and foreign language ?*

- A system of conventional, spoken or written symbols by means of which human beings, as members of social groups and participants in its culture, communicate (Encyclopedia Britannica)
- A system of communication by sound, through the organs of speech and hearing, among human beings of certain group or community, using vocal symbols possessing arbitrary conventional meanings (Dictionaries of linguists)
- Language is 'audible articulate human speech as produced by the action of the tongue and adjacent vocal organs. The body of words and methods of conveying words used and understood by a considerable community, especially, when fixed and elaborating long usage, a tongue. (Webster New International Dictionary)

Language is the vocal communication of thought and ideas, a process by which meaning is conveyed or expressed from one person to another. Language assumes two specific functions – first, it serves as a cognitive test by which individuals use the linguistic code to represent their thoughts, second as a social tool, language provides for interactions between people, for interpersonal communication and mutual expressions of feelings.

English is spoken as a first, second and foreign language. In countries like the UK, USA, Canada and Australia, English is a first or native language. In other countries such as India, Pakistan, Bangladesh, Srilanka, Nigeria and Tanzania, English is spoken as a non-native or second language. In these countries, English is used for various purposes – official, educational, social and interpersonal. In countries like Russia, Japan, Germany, France and Italy, English is used as a foreign language for international purposes.

There are several definitions of language. A few are listed below:

- Language is a purely human and non-instructive method of communicating ideas, emotions and desires by means of a system of voluntarily produced symbols (Sapir : 1921: 8)
- A language (is a) symbol system ..... based on pure or arbitrary conventions ..... infinitely extendable and modifiable according to the changing needs and conditions of the speakers (R. H. Robins: 1964 :
- Human languages are unlimited ..... (an unlimited set of discrete signals) ..... have great structural complexity ..... structured on at least two levels .... (the learning task is considerable) ..... are open ended ..... allow for the transmission of information (R. W. Langackar: 1967: 20-21)

- When we study human language, we are approaching what some might call "human essence", the distinctive analytics of mind that are, so far as we know, unique to men (N. Chomsky: 1968 : 100)

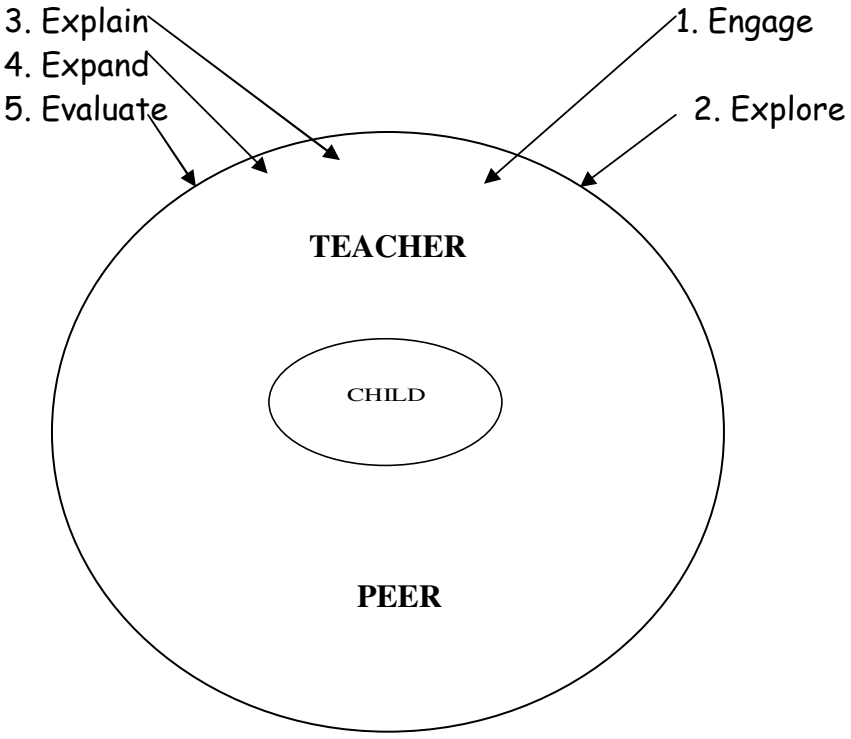
Constructing knowledge in the classroom:

Introduction:

The National Curriculum Framework highlights the constructivist approach. Constructivism is a philosophical view which states that every individual has the capacity to construct knowledge. Learners actively construct their own knowledge by connecting new ideas on the basis of materials / activities (experiences) presented to them. Construction indicates that each learner individually and socially construct meaning as he/she learns. Constructing meaning is learning.

According to the principle of constructivism, information may be shared by the teachers but knowledge generation or understanding is the primary responsibility of the individual student.

Accepting that knowledge construction is the primary responsibility of the learners, the teacher acts as a facilitator in the process. The whole situation is presented in the following diagram which explains the entire process –



A lot of teaching learning techniques is employed in the knowledge construction process. Among them cooperative learning is one. Cooperative learning involves the use of varied instructional techniques. These strategies aim at the development of

thinking, remembering, concept formation, problem solving and logical reasoning in social context.

Constructing knowledge in the classroom:

(1) Developing a reading laboratory for individualized classroom work for teachers who may be working with limited resources. Stroller (1984) outlines the features that such a laboratory might usefully contain. Ideally it shows –

- Accommodate a wide variety of students' reading levels
- Have a large variety of reading selections at each reading level
- Have a selection of high-interest topic appropriate to the learners
- Allow for systematic progression from one level to another
- Permits students to progress at their own pace
- Includes a self correction system
- Includes charts and graphs for easy record keeping
- Includes a placement test for accurate level of assignment
- Includes exercises that require students to practice a variety of reading skills and strategies.

(Materials and methods in ELT – A teacher's guide – John Mc Donough and Chrostopher Show, pp. 211-212)

2. **Writing in the classroom :**

The classroom can be structured to provide positive intervention and support in the development of writing. The classroom can provide an environment for writing at each of the three main stages of – (1) gathering ideas: pre-writing & planning (2) working on drafts, and (3) preparing the final version. The primary means by which this can be done is by establishing a collaborations, interactive frameworks where learners work together on their writing in a 'workshop' atmosphere. A few examples :

(i) 'Brainstorming' a topic by talking with other students to collect ideas.
(ii) Co-operating at the planning stage, sometimes in peers/groups, before agreeing a plan for the class to work from
(iii) 'Jigsaw' writing, for example using a picture stimulus for different sections of the class to create a different part of a story
(iv) Editing another students' draft
(v) Preparing interview questions, perhaps for a collaborative project.

Integrated skills in the classroom:

Nunan (1989) suggests how an effective language lesson can incorporate a range of different factors that ought to maximize language learning potential : he calls it 'the integrated language lesson'. He designs seven principles to practice the integration of language skills.

1. *Authenticity* : authentive materials for the learners
2. *Task continuity:* One activity builds on what went before, for example, listening leads on to reading and discussion.
3. *Real world focus*: the materials should make an explicit link between the classroom and the 'real' world.
4. *Language focus* : Learners' should be systematically exposed to the language system and are encouraged to identify patterns and regularities through discovery learning.
5. *Learning focus* : The tasks should develop the skills of self –monitoring and self- evaluation.
6. *Language practice:* The activities should give the opportunity to learners to have controlled oral work practice.
7. *problem solving*: Learners work in pairs or in small groups to try to facilitate language acquisition.

(Materials and methods in ELT, A teachers' guide p.p. 178. Jo Mcdonough and Christopher Shaw)

Patterns of classroom intervention is another important aspect of classroom. The most common type of classroom interaction is that known as 'IRF – Initiative – Response – Feedback'; the teacher initiates an exchange, usually in the form of a question, one of the students answers, the teacher gives feedback (assessment, correction, comment), initiate the next question and so on. But there are alternative patterns and the initiative does not always have to be between students, and interaction may be between students, or between a student and the material.

Given below are various patterns of interactions –

- Group work: Students work in small groups on tasks that entail interaction - conveying information, for example, on group decision making. The teacher walks around listening, intervening little if at all
- Closed ended teacher questioning (IRF): Only one 'right' response gets approved. Sometimes, cynically called the 'guess what the teacher wants you to say' game.
- Individual work: the teacher gives a task or set of tasks, and students work on them independently, the teacher walks around monitoring and assisting where necessary.

- Choral response: the teacher gives a model which is repeated by all the class in chorus; or gives a cue which is responded to in chorus.
- Collaboration: Students do the same sort of tasks as an 'individual work', but work together, usually in pairs, to try to achieve the best results they can. The teacher may or may not intervene (note that, this is different from 'group work' where the task itself necessitates interaction).
- Students initiate, teacher answers: For example, in a guessing game – the students think of questions and the teacher responds; but the teacher decides who asks.
- Full-class interaction: The students debate a topic or do a language task as a class; the teacher may intervene occasionally, to stimulate participation or to monitor.
- Teacher talks: This may involve some kind of silent students' response, such as writing from dictation, but there is no initiative on the part of the students.
- Self –access: Students choose their own learning tasks and work autonomously.
- Open ended teacher questioning: There are number of possible 'right' answers, so that more students answer each cue. (@ Cambridge University press, 1996)
- Understanding the importance of a language- rich classroom: Children should be provided an environment to learn English joyfully. This can be done by creating an input-rich environment. Therefore, the responsibility of teacher is to create an atmosphere for language learning conducive to maximum learning. If competence in language skills is to be developed, many opportunities need to be provided, which stimulate to use their skills in a meaningful way. The classroom needs to be set up so that the children can come in contact with the materials, the child will then interact with the materials perhaps, in an exciting way and involved manner.

Creating a natural linguistic environment is a valuable and the most effective way to have children learn English with ease.

Communicative language teaching:

The socio-linguist emphasizes on communicative competence. Communicative competence is basically having the capability to use language in a speech community. According to Richards, Platt and Weber, communicative competence includes –

a. knowledge of the grammar and vocabulary of the language.

b. Knowledge of the rules of speaking – how to begin and end a conversation, what and how to speak to different persons in different situations.
c. Knowing to respond to different types of speech acts.
d. Knowing how to use language appropriately

Communicative language teaching recognize the teaching of 'communicative competence'.

What is speaking ?:

Oral skills are primarily motor perceptive skills involving perceiving, recalling and articulating in the correct order the sounds and structure of a language. Listening and speaking being the oral skills move in the aforesaid process giving rise to interpersonal interaction. Learners must be taught how to speak correct English using its sounds, vocabulary, patterns in appropriate context so as to communicate feeling, emotion and ideas/thoughts effectively.

What is listening? :

Listening is an important language skill and yet the most neglected skill in our classroom. It is neglected not because we do not recognize the importance of listening but because we take it for granted that learners automatically acquire this skill with out any special training. We think we give them enough practice in listening in our classrooms through our expository methods of teaching. Listening involves a lot of many things. Listening is an active process. It can be depicted as follows:

Input → Processing → Output

By input, we mean the words spoken by the speaker and by output the listener's response. The listener processes the input before coming out with her/his output.

Listening and speaking

(1) Listening with comprehension to follow simple instructions, public announcement, telephonic conversations, classroom discussions, radio, TV news, sports commentary etc.

Listening with comprehension:

The main purpose of listening with comprehension is to make learners follow and perform certain functions in real life listening situations. This being so, it makes sense to examine first of all what real-life listening is, and what sorts of

things the listener needs to be able to do in order to comprehend satisfactorily in a variety of situations.

- Listening situations:
- Interviews
- Instructions
- Loud speaker announcement
- Radio and TV news
- Committee meeting
- Shopping
- Theatre show
- Telephone chats/conversations
- Lesson, lecture
- Conversation, gossips
- Watching television
- Listening to radio
- Story telling

(A course in language teaching: practice and theory – Penny Ur)

(2) Sound system of language –phonology and prosody

- The organs which make up the sound system
- How sound is produced (*please refer picture of organs of speech in any book to see the parts – lip, teeth, teeth-ridge, hard palate, soft palate, uvula, pharynx, blade of the tongue including tip, front of the tongue, back of the tongue, root of the tongue, epiglottis, food passage, wind pipe, larynx, vocal chords, glottis*)

The phonatory system is formed by the larynx. The larynx contains the vocal chords.

The articulatory system consists of nose, the lips, and the mouth and its contents including specially the teeth and the tongue. Although the ear is not a part of the speech producing mechanism, we must include it among the vocal organs, because speech is not just produced, it also has to be received - and the main organ of reception is the ear.

Prosody:

Prosody signifies the systematic study of versification, that is, of the principles and practice of meter, rhyme and stanza. Sometimes the term 'prosody' is extended to include also the study of sound effects such as alliteration, assonance, euphony and onomatopoeia. (A glossary of literary terms: M. H. Abrams)

Stress:

word stress:

Word stress is a very important feature of spoken English. Words are made up of syllable/s. the stress always falls on a particular syllable in a given word. If a word has more than one syllable, all the syllables are not equally prominent; one of the syllables is more important than the others. For example, the word 'telephone' is made up of three syllables: 'te', 'le' and 'phone', but only the first syllable- 'te' is stressed, i.e it is more prominent than 'le' and 'phone'. Similarly, in the word 'pronunciation', which is made up of five syllables, the syllable 'a' is the most prominent. In the word 'mountaineer', which has three syllables, the last syllable 'neer' is stressed.

(*to refer the course on phonetics and spoken English, published by CIEFL*)

Sentence stress in connected speech :

When we talk we do not talk in single words but in groups of words spoken continuously, with no break or pause; we may pause after a group, but not during it. These groups may be long, for examples, "However did you manage to do it so neatly and tidily ?'or they may be short, as when we say 'yes' or 'no' or they may be of intermediate length, like 'how did you do it ?'. When we have longer things to say we break them up into manageable groups.

When one group is very closely connected grammatically to the next, there is a very slight pause, marked by (/). When two groups are not so closely connected, there is a longer pause, marked by (//), and this double bar is also used to mark the end of a complete utterance. It is not usually difficult to see how a long utterance can be broken up into shorter groups, but when you listen to English notice how the speakers do it both in reading and in conversation.

(*To refer 'Better English pronunciation: J. D. O'Connor'*)

(3) **Using dictionary for correct pronunciation and stress:**

Using a dictionary makes the task of learning a second language easier. A user can pick up a dictionary to search for information quickly. Once a word is located in a dictionary any user can understand what it means and use it conveniently in speaking and writing. A good dictionary (preferably the recent edition) should find place in a classroom and the students should be made to use dictionaries so that a genuine interest grows in them to use dictionaries for learning English better.

Any dictionary could be used for different purposes –

- For spelling
- For pronunciation
- For grammar

- For meaning
- For definition
- For appropriate use of words in context
- For understanding how syllables are used in a word
- For use of words in formal and informal situations
- For history of words
- For knowing the roots and derivations.

4) **Phonetic drills (with the use of minimal pairs i.e. bit, beat etc.):**

fa:st	**fast**	**va:st**	**vast**	**fju:**	**few**	**vju:**	**view**
fi:l	**feel**	**vi:l**	**veal**	**fɪə:**	**fear**	**viə :**	**veer**
fəʊl	**foal**	**vəʊl**	**vole**	**fail**	**file**	**va:l**	**vile**
ferɪ	**ferry**	**verɪ**	**very**	**faet**	**fat**	**vaet**	**vat**
faen	**fan**	**vaen**	**van**	**feɪl**	**fail**	**veɪl**	**veil**

Reading : Acquisition of reading skills:

Reading for global and local comprehension:

A global comprehension requires understanding of a passage as a whole or a fairly large part of it. Global comprehension generally focuses on the main gist or idea of a passage or a poem.

A local comprehension requires the learners to show how well they have understood specific details that have either been mentioned explicitly in the passage or that need to be infused from information available in the passage. Thus, local comprehension presupposes two kinds of reading skills : skimming and scanning. Skimming involves a quick reading of the text in order to get an overall idea or gist of the text. Scanning involves a quick reading of the text for obtaining specific information.

Reading aloud and silent reading:

Most of our day-to-day reading is done silently. When we read an article or an advertisement we are engaged in the process of deriving meaning from the text. We can derive meaning more efficiently by concentrating on meaning alone which is possible only in the case of silent reading. When we read aloud our concentration is divided between reading and speaking. This makes reading much more difficult, resulting in problems in comprehension.

Teaching Reading skills:

1) *Creating environment for reading:*

The aim of a teacher in a reading class is to enable students to read unfamiliar texts on their own, at an appropriate speed and with reasonable comprehension.

We know that reading skills, like any other skills, can be acquired only when they are practised. It is the learners who have to practise and the teacher has to give them practice. The learners will be willing to practise only if they are motivated to acquire these skills. Hence, motivation is the most important thing in second language teaching. If learners lack motivation, no technique can help them acquire these skills.

The teacher should make the learners feel the need to learn English by telling them about the importance of English in their day-to-day lives. Once they are convinced, they will extend their co-operation. Teaching reading becomes an easy task with a willing group of learners.

Perspective about mathematical knowledge

Effect of Socio-cultural background of children on mathematical knowledge:
Learners coming from different socio-cultural background have different levels of mental and physical development, which affect their learning process in school. It is obvious that the children, who are habitually exposed to functional mathematical environment in their day-to-day socio-cultural life, acquire many mathematical /computation knowledge. Children going for marketing, children helping their parents in grocery shop, cloth shop etc., in blacksmithing, pottery etc. are found to be rich in functional numeracy. They experience a lot of mathematical situation (basic nature) in providing assistance of this kind to their parents and in taking up such responsibilities, like shopping, marketing etc. These children, however, needs classroom inputs for getting a structured skills in numeracy. It is seen that a child, who is not so much accustomed with shopping with money, who is not exposed to any mathematical environment at home or other place, lacks accuracy and speed in simple mathematical operations. Further, children whose mother tongue is not the standard school language, they find difficulties in comprehending the mathematical concepts in classroom. Their unfamiliarity with the standard language hinders their learning. Thus, socio-cultural background has an impact upon acquirement of basic mathematical knowledge.

Tessellations: Arrangement of small pieces of stone or slab of various colours that makes a pattern. So, knowledge of pattern should be discussed in the class.

Children conceptualization of mathematics:

Theories of Mathematics:
1. Piaget's theory on mathematics: J. piaget (1896-1980) is known as the world's most eminent child psychologist. His concept of knowledge differed from that of most other theorists. Piaget proposed that knowing is a process, a repertoire of actions that a person performs. In his opinion, to know something means to act on that thing, with the action being either mental, physical or both. As children grow up, their mental development also grow up simultaneously.
As a consequence, they are gradually freed from having to carry out direct physical behaviour in order to know something. They come out produce mental images and symbols (words, mathematical figures) that represent object and relationship. Other children think about things by carrying out internalized actions on symbolic objects.

According to Piaget, a person does the cognitive operations to a particular level at a particular stage. So, all attempts should be made to draw the abilities to the best possible way.
He also suggests that to develop the cognitive level of children in different stage, learning process of children must be carried out with the help of activity-based method. While performing tasks by children, they are to be asked question by the teachers, and when the child give answer it is duty of a teacher to enquire by him how the child get that answer.
As far as possible, task should be related with materials in elementary stage and while giving instruction, language communication should very simple so that pupils can easily understand it.
(Piagetian teaching model for cognitive development by – B. K. passi, D. R. Goel , H. K. senapaty)

2. Zoltan P. Dienes: Z. P. Dienes was an educationist who lived during the middle part of 20^{th} century. His major massage is concerned with providing a justification for active involvement of student in the learning process of mathematics.
According to him, we are to see mathematics as an art form to be studied for the intrinsic value rather than to learn the subject for utilitarian value only. He believed that learning mathematics should ultimately be integrated into one's personality and thereby become a means of genuine personal fulfillment. Dienes's theory of mathematics learning has four basic principles –

(i) Dynamic principle: According to this principle, for proper understanding of the learner, we should follow the three stages – the first stage is play stage, which involves the learner with the concept in a relatively unstructured but not random manner, which is natural. Following the informal exposure afforded by the play stage, more structured activities are appropriate and this is the second stage. The third stage is characterized by the emergence of mathematical concepts.

(ii) The perceptual variability principle: This principle suggests that conceptual learning is maximized when the children are exposed to a concept through a variety of physical context. The provision of multiple of experiences (not the same) using a variety of materials should be designed to promote abstraction of mathematical concepts.

(iii) The mathematical variability principle: This principle suggests that the generalization of a mathematical concept is enhanced when the concept is perceived under conditions where in variables irrelevant to that concept are symmetrically varied while keeping the relevant variable constant.

(iv)The constructively principle: Denies identifies two kinds of thinkers – the constructive thinker and the analytic thinker. This principle states that 'construction should always precedes analysis'. He points out that it is not possible to analyze what is not yet there in some concrete form.

3. Jerome Bruner: J. Bruner is an educationist of 20^{th} century. The widely quoted view by J. Bruner is that 'any subject can be effectively taught in some intellectually honest form to any child at any stage of development' has encouraged curriculum developer in some disciplines to explore new avenues of both content and method. In recent years, he has become widely known in the field of curriculum development. Bruner's instructional model is based on four key concepts – structure, readiness, intuition and motivation. He suggests that teaching students the structure of a discipline, as they study particular content, leads to greater active involvement on their part as they discover basic principles for themselves. He states that learning the structure of knowledge facilitates comprehension, memory and transfer of learning.

Role of language communication in mathematics classrooms:

It is a matter to be noted that language of communication in a mathematics classroom plays vital role while understanding the mathematical concepts by learners.

(i)Teacher's oral as well as written instruction to students should be simple but standard, so that it may not create any confusion in the minds of the learners in understanding the subject matter placed before them.

(ii)Mathematics has its own symbolic language (i.e. +, -, x, =, >, <, other short language etc) . Each learner should learn this language well.

(iii)The language of communication in mathematics class is to be short in nature but at the same time it should be easily understandable by learners. Ample of opportunities should be given to the students so that they can develop the capacity of understanding the mathematical language.

UNDERSTANDING WORK EDUCATION

The meaning of work and its place in education:

Work means an activity directed towards making or doing something in simple sense. It also implies making one's work or capabilities or both, available for someone else's purpose for monetary or other form of return. A number of such activities are related to producing food, articles of daily use, looking after the physical and mental wellbeing of people, and other activities related to the administration and organization of society. In some society, in addition to these, two basic dimensions, various other activities also contribute to human
being and in that sense all are considered as forms of work.

In this sense, first work means – a commitment to other members of the society or community as one is contributing one's work and capabilities for fulfilling their needs. Second – it implies that one's contribution made through work will be submitted to public standards of performance and hence will be valued and judged by others. Third – work implies contributing to the functioning of social life as it either produces something that makes life as it either produces something that makes life possible or helps in the functioning of society in general. Finally, work enriches human life as it opens up new dimensions of appreciation and enjoyment.

The introduction of productive work as a pedagogic medium in the school curriculum have a major transformative implication for various dimensions of education system – philosophical, curricular structural and organizational. Therefore, productive work at present need to be viewed as a pedagogic medium for knowledge acquisition, developing values and multiple skill formation from pre-school to the senior secondary stage.

The Gandhian proposal of Nai Talim (Basic education) was first that brought a radical change in Brahminical-cum- colonial paradigm dichotomy by placing productive manual work at the center of school curriculum. In this Gandhian view, participation in productive work under conditions approximating to real-life situations is pedagogically linked to learning and simultaneously becomes the medium of knowledge acquisition, developing values and skill formation. In addition, engagement with work will help promote multi-dimensional attributes in the cognitive, affective and psychomotor domains in a holistic manner i.e. by integrating 'head, hand and heart'.

(A) **COGNITIVE DOMAIN** (Knowledge and Understanding):

Work Education helps pupil to–

i) Identify his needs and those of his family and community in respect of food, health and hygiene, clothing, shelter, recreation and social service.

ii) Acquaint himself with productive activities in the community.

iii) Know the sources of raw materials and understand the use of tools and equipment in the production of goods and services.

iv) Understand scientific facts and principles involved in various forms of work.

v) Understand the process of planning and organizing productive work.

vi) Understand his role in productive situations.

vii) Understand the needs of a technologically advancing society in terms of productive processes and skills.

(B) **PSYCHOMOTOR DOMAIN** (Skills)

It helps the pupil to-

i) Develop skills for the selection, procurement, arrangement and use of tools and materials for different forms of productive work.

ii) Develop skills for the application of problem solving methods in productive work and social service situations.

iii) Develop skills for greater productive efficiency.

iv) Use his creative faculties for devising innovative methods and materials.

C. **AFFECTIVE DOMAIN** (Attitude and Values):

It helps the pupil to-

(i) Develop respect for manual work and regard for manual workers.

(ii) Inculcate socially desirable values such as self-reliance, helpfulness, cooperativeness, team-work, perseverance, tolerance, etc.

(iii) Develop proper work habits and values such as regularity, punctuality, discipline, honesty, efficiency, love of excellence and dedication to duty.

(iv) Develop self-esteem and confidence through achievements in productive work and services.

(v) Develop a deeper concern for the environment and a sense of belonging, responsibility and commitment to the society.

(vi) Develop awareness of socio-economic problems of society.

(vii) Appreciate the utility of productive work and services to the community

Secondly, the Education commission (1964-66) recommended that "work experience should be introduced as an integral part of all education" and defined it as "participation in productive work in school, in home, in a workshop, in a farm, in any other productive situation. While clearly distinguishing between work experience in education and vocationalisation of education, the Commission stated "work experience" is thus a method of integrating education with work. It can help to make the distinction between intellectual and manual work less marked as also the

social gratification based on it. It could make the entry of youth into the world of work and employment easier by enabling them to adjust themselves to it.; contribute to the increase of national productivity both by helping students to develop insights into productive processes and the use of science, and by generating in them the habit of hard and responsible work.

Thirdly, the National Policy on Education, 1986 and its modified version of programme of Action, 1992 recommendation was more concerned with students' entry into the 'work force' and pre-vocational programme to 'facilitate' the choice of the vocational course at the higher secondary stage than with placing work at the center of curriculum development.

Fourthly, National curriculum framework-2000 emphasized work education. Work education is referred to prepare children for life, equipping them with proper attitude, knowledge and skills in respect of work, which will lead to their personal, social and vocational development and ultimately to their smooth transaction from the world of learning to the world of work.

Lastly, National curriculum framework-2005 made a conscious effort to place 'work' in education; with a view to bridge the gap between manual and intellectual work, to make the learning process meaningful and purposeful. The introduction of work education as a pedagogic medium from pre-school to senior secondary stage curriculum not only to develop a positive attitude towards manual work and a sense of dignity of labour, but also promotes the creative abilities of the children. The introduction of work education as a pedagogic medium aims to inculcate desirable social and moral values and qualities among the pupils and develop capabilities to achieve productive efficiency; to help the learners to identify their day-to-day needs and develop self-reliance and confidence in the work.

This present position of work in education will help the learners to meet the globalised needs and to make them competent to cope up with the world of competition.

Views of Mahatma Gandhi, Rousseau regarding work education:

Mahatma Gandhi (1869 – 1948):

The essence of all greatness of Mahatma Gandhi, the foundation of his marvelous achievements in social, economic and political fields is his philosophy of life, deep and profound, saturated with idealistic and spiritualistic doctrines. Amongst the contemporary philosophers of India, he stands supreme as a practical philosopher who believed not in theory but put it into action in practical field, all the idealistic principles he advocated.

The system of education, which was introduced by the British rulers of India, had numbers of drawbacks and was completely unsuited to the Indian Community. It produced scholars who were physically weak, morally bankrupts, religiously unbelievers and professionally unfits. This education was too much literary and bookish. In this education, practical experience and manual work were conspicuous by their absence. Mahatma Gandhi made a forceful plan for the introduction of manual work at the center of school curriculum as a protest against the bookish, literary and mechanical system of education. The National conference of education held at Wardha (now in Maharashtra) in October, 1937 under the leadership of Mahatma Gandhi. The conference deliberated upon Gandhi's proposal of Basic education (Buniyadi-shiksha). Making the productive work a pedagogic basis of learning in schools by viewing schools as communities engaged in production and making schools self reliant through the income of productive work were amongst the other key features of the original proposal that was viewed as a means of social transformation.This holistic philosophy of education later known as "Nai Talim".

The importance o of manual work and craft was further emphasized by Zakir Hussain Committee, which worked worked out the details of the Wardha scheme of education (1938) and was started as protest against the bookish, literary and mechanical system of education. After the Wardha conference, a committee was constituted under the chairmanship of Dr. Z. Hussain to evolve a curriculum of Basic education on the basis of the principles of placing productive work in the form of a trade or craft at the center of the educational process, the later being selected keeping in mind the socio-cultural milieu of the children (Report of the Zakir Hussain committee, 1938). The meeting of the Indian National Congress held at Haripura (Gujrat) in the same year, built up a national system of education which amongst others, aim at providing education "through the medium of some productive trade or handicraft and to the extent possible, all other activities built around this central craft, the later being chosen in accordance with the condition in which the child is placed". The Congress further resolved to constitute a body called "Hindushtani Talim Sangha" to promote this national system and to prepare a concrete programme of such education (1957).

The views of Mahatma Gandhi regarding "Education through work", which he put forwarded through his opening speech at the Educational Conference held at Wardha (in October, 22-23 in 1937) emphasizing manual and productive work are following -

(i)The primary education prevailed during that time, not only wasteful but harmful. The remedy lay in educating through vocational or manual training.

(ii)Manual training should be the core of all education. Placing of productive work at the center of curriculum will act as a powerful corrective to the 'bookish' information oriented and generally unchallenging character of school education and in turn, help relate the later to life needs of the child.

(iii)Engagement with work will help in promote multi-dimensional attributes in the cognitive, affective and psychomotor domains in a holistic way i.e. by integrating head, hand and heart.

(iv)There was no other way to carry education to crores of our children except through meeting the expenses of teacher by the product of the manual work. Thus, education should be self-supporting.

(v)'Takli' is not the only craft. All other crafts could be utilized in its place.

(vi)Participation in productive work under conditions approximately to real life situations is pedagogically linked to learning and simultaneously becomes the medium of knowledge acquisition, developing values and skill formation.

(vii)Useful manual work if performed intelligently leads to the harmonious development of body, mind and soul.

Views of Rousseau (1712 -1778) regarding work education:

1. It is the simplest principle of psychology that a child learns more efficiently when he is engaged in purposeful activity, which appeals to his instincts and interest, stimulates his observation and arouses his thoughts and feelings. The quickest development of mind takes place if productive play or work is made the means of intellectual learning.
2. The central aim of education is the autonomous development of the individual, and education should be planned according to the nature of the child. He recommended play way and activity method, specially suggested problem-solving activities or works (problem should be placed before the child and let him solve by himself). Whiling dealing with the problem, a coordination of head, hand and heart is taken place in a holistic manner.
3. Pedagogical experience in using work is viewed as an effective and central development tool at different stages of childhood and adolescence and therefore, moving towards a secular, egalitarian and democratic society.

PURPOSE OF WORK EDUCATION AS AN ACTIVITY APPROACH IN THE ELEMENTARY LEVEL CURRICULUM:

1. To enrich the pedagogic basis of learning among the children from 6 to 14 years age group by inclusion of productive works with other forms of activities in the curriculum, such as experiments, survey, field-based studies, health, and sanitation projects, social action and engagement with community etc.
2. To promote knowledge, building values, skill formation, acquire critical thinking, creativity and other generic competencies through participation in work education activities in real life situations.
3. To bridge the gap between manual and intellectual work by inculcating desirable social and moral values and qualities among the pupils and develops capabilities to achieve productive efficiency.
4. To develop a positive attitude towards manual work and a sense of dignity of labour among the children.
5. To help them identify their day-to-day needs and to develop self reliance and confidence in the work.
6. To prepare the children for life equipping them with proper attitude, knowledge and skills in respect of work which will lead to their personal, social and vocational development and ultimately to their smooth transition from the world of learning to the world of work.
7. To make the pupil more competent to cope up in the world of competition through developing the mind of globalization in work from very beginning of their school life.
8. To help the student to go forward to achieve success in their life requires reconstruction of evaluation parameters along with the activity approach in the subject work education of elementary school curriculum. In order to test the attributes that develop amongst the learners as a result of engaging with pedagogy of work education modification should be made in the assessment system of school as well as in the public examination.

DIFFERENCE BETWEEN WORK EDUCATION AND VOCATIONAL EDUCATION:

1. Work education is an integral component of education.
2. Work education provide with knowledge and skills through well structured and graded programme.

3. Work education is a distinct curricular area for providing children with opportunities for participation in social and economic activities inside and outside the classroom.
4. Work education aims at restoring dignity and respect to all types of manual work promoting self-reliance in meeting one's daily needs, and those of one's family and community, increasing productivity through the development of proper work skills and values, and promoting commitment to the welfare of the society through suitable programme of social work or community service.

Vocational work:

1. The diversification of students to the vocational stream at the senior secondary stage is hindered by the prevalent attitude linking job prospect to degree.
2. Vocationalisation of the education can not take place in the classroom
3. The courses of vocational education stream is designed as self contained modules specifying details of the theoretical aspects or basic scientific principles and the practical operational details. Scholars will assess the need, relevance and potentials of the courses before offering them to study.

FOUR PILLARS OF EDUCATION:

Learning throughout life: the heartbeat of society

The concept of learning throughout life emerges as one of the keys to the twenty-first century. It goes beyond the traditional distinction between initial and continuing education. It meets the challenges posed by a rapidly changing world. This is not a new insight, since previous reports on education have emphasized the need for people to return to education in order to deal with new situations arising in their personal and working lives. That need is still felt and is even becoming stronger. The only way of satisfying it is for each individual to learn how to learn.

But there is a further requirement: the far-reaching changes in the traditional patterns of life require of us a better understanding of other people and the world at large; they demand mutual understanding, peaceful interchange and, indeed, harmony - the very things that are most lacking in our world today.

Having this position, greater emphasis has been put on one of the four pillars that it proposes and describes as the foundations of education: *learning to live together,* by developing an understanding of others and their history, traditions and spiritual values and, on this basis, creating a new spirit which, guided by recognition of our growing interdependence and a common analysis of the risks and challenges of the future, would induce people to implement common projects or to manage the inevitable conflicts in an intelligent and peaceful way. Utopia, some might think, but it is a necessary Utopia, indeed a vital one if we are to escape from a dangerous cycle sustained by cynicism or by resignation.

While the vision of the kind of education that would create and underlay this new spirit, the other three pillars of education which provide, as it were, the bases for learning to live together have not been discarded.

The first of these is *learning to know.* Given the rapid changes brought about by scientific progress and the new forms of economic and social activity, the emphasis has to be on combining a sufficiently broad general education with the possibility of in-depth work on a selected number of subjects. Such a general background provides, so to speak, the passport to lifelong education, in so far as it gives people a taste - but also lays the foundations - for learning throughout life.

Learning to do is another pillar. In addition to learning to do a job of work, it should, more generally, entail the acquisition of a competence that enables people to deal with a variety of situations, often unforeseeable, and to work in teams, a feature to which educational methods do not at present pay enough attention. In many cases, such competence and skills are more readily acquired if pupils and students have the opportunity to try out and develop their abilities by becoming involved in work experience schemes or social work while they are still in education, whence the

increased importance that should be attached to all methods of alternating study with work.

Last, but far from least, is the fourth pillar: *learning to be.* This was the dominant theme of the Edgar Faure report Learning to Be: The World of Education Today and Tomorrow, published by UNESCO in 1972. Its recommendations are still very relevant, for in the twenty-first century everyone will need to exercise greater independence and judgment combined with a stronger sense of personal responsibility for the attainment of common goals. Our report stresses a further imperative: none of the talents, which are hidden like buried treasure in every person must be left untapped. These are, to name but a few: memory, reasoning power, imagination, physical ability, aesthetic sense, the aptitude to communicate with others and the natural charisma of the group leader, which again goes to prove the need for greater self-knowledge.

Four pillars of education foundation as determined by the UNESCO's international commission on education chaired by Jacques Delors (1996) are - Learning to know, learning to do, learning to live together and learning to be – work education integrates all these four pillars.

The work education in schools, if properly operationalised, can integrate all these four pillars.

Additional reading: Delor' s report:

Globalization and Teacher Education:

The Delors report (UNESCO, 1996) sets out an agenda for the future which implies that significant changes are needed in pre-service teacher education programs if we are to select and prepare a new generation of teachers equipped with the knowledge, skills and values to help their culturally different and their socially disadvantaged students to learn, to resolve conflicts peacefully, to respect each other's dignity and cultures, and to become socially responsible citizens. What emerges from the research is that teacher education which follows the 'Do as I say, not do as I do model' has to be replaced by one which sees learning to teach as a deeply personal activity in which includes activities designed to develop sensitivity to cultures, languages and lives of children coming from different social and cultural groups, and which provides constant and significant support, working with cohort groups, and a systematic long-term message which provides guidance and direction for personal development.

In a globalised world, we all must face the problem of reconciling the ideal of respect for diversity with concerns for societal cohesion and the promotion of universally shared values and norms. In the normative sense, multiculturalism

represents a position about the place of cultural identities in contemporary society, stressing that acknowledging the existence of ethnic diversity and ensuring the rights of individuals to retain their culture should go hand-in-hand with enjoying full access to, participation in, and adherence to principles and values of the society. Nations adopting a multicultural approach to education have all sought to develop programs in which children and adults have opportunities to develop to a reasonable level of competence, both the national language(s) and their mother tongue, and an understanding of the major cultures (language, literature, history, religious values, and so on) of the nation. Participation in the multicultural knowledge society of the future will demand even higher levels of language competence and cultural sensitivity as the world shrinks. Thus progressively we can expect language policy to include elements of plurilingualism, NICT and lifelong learning.

While we need more ethnographic research on intercultural learning, we also need the put the research evidence on the table to ensure that governments do assume their responsibilities to ensure a just distribution of the benefits of globalization within and among nations – otherwise, the rich will get richer (and meaner), the poor poorer (and more desperate), and our world ever more polarized and insecure.

Our common future will depend on the degree to which we all become better world citizens, creating the unity within diversity which stems from an intercultural education which helps us to build strong cultural roots, to understand and respect the cultures of others and to learn to live together harmoniously in multicultural communities.

How are the global trends in education reflected in the curriculum?:

Our institution has accommodated the global trends in teacher education curriculum, In considering the challenges due to impact of globalization, due emphasis is given in the curriculum upon building capacities in all teachers (would-be-teachers) to play a vital role and in empowering themselves in the following areas of competence, performance and commitment:

<u>Competencies:</u>

1. Contextual competencies: All teachers must have a wider view of the development of education in society and teachers' role in it.
2. Conceptual competencies: This comprises of concepts of education and learning psychological, sociological and physiological aspects of education etc.
3. Curricular and content competencies should have a clear competence to specific stage of education such as, primary, upper primary and secondary.

4. Transactional competencies: This pertains to general, subject-wise, stage-wise areas.
5. Competencies in other Educational activities: This relates to planning and organization of other school activities, such as co-scholastic activities.
6. Competencies to develop Teaching-learning materials.
7. Evaluation competencies.
8. Management competencies.
9. Competencies related to working with parents.
10. Competencies related to working with community and other agencies.

Performance:

The above stated 10 competencies are directly linked with their performance levels. These are:

1. Classroom performance
2. School level performance
3. Out of school level performance
4. Parents related performance
5. Community related performance

Commitment:

1. Commitment to learners
2. Commitment to the society
3. Commitment to the profession
4. Commitment to attaining excellence in the profession
5. Commitment to basic values.

How are existing courses modified to meet the emerging needs? :

As we engage in the act of envisioning the role of the teacher and the shape of teacher education unfolding in the coming years, it would do us well to take note of the movement of ideas, globally, that have led to current thinking on teacher education. While the search for a philosophy of teacher education that satisfies the needs of our times continues, we seem to be converging on certain broad principles that should inform the enterprise.

First, our thinking on teacher education is integrative and eclectic. It is free from the hold of 'schools' of philosophy and psychology. We also do not think of teacher education as a prescriptive Endeavour; we want it to be open and flexible. Our emphasis is on changing contexts and our aim is to empower the teacher to relate himself/herself to them.

Second, modern teacher education functions under a global canvas created by the concepts of 'learning society', 'learning to learn' and 'inclusive education'. The concern is to make teacher education liberal, humanistic and responsive to the

demands of inclusive education. The emphasis in teaching is not on didactic communication but on non-didactic and dialogical explorations.

Third, modern pedagogy derives its inspiration more from sociological and anthropological insights on education. There is increasing recognition of the worth and potential of social context as a source for rejuvenating teaching and learning. Multi-cultural education and teaching for diversity are the needs of contemporary times.

Fourth, we acknowledge the existence of a diversity of learning spaces and curriculum sites (farm, workplace, home, community and media), apart from the classroom. We also appreciate the diversity of learning styles that children exhibit and learning contexts in which teachers have to function – oversized classrooms, language, ethnic and social diversities, children suffering disadvantages of different kinds.

Lastly, we have realized the tentative and fluid nature of the so-called knowledge-base of teacher education. This makes reflective practice the central aim of teacher education. Pedagogical knowledge has to constantly undergo adaptation to meet the needs of diverse contexts through critical reflection by the teacher on his/her practices. Teacher education needs to build capacities in the teacher to construct knowledge, to deal with different contexts and to develop the abilities to discern and judge in moments of uncertainty and fluidity, characteristic of teaching-learning environments.

Against this backdrop and keeping in view the vision of teacher education as articulated above, modification of existing courses are being done which relate to teacher's role, and the philosophy, purpose and practice of teacher education. These are:

- Teachers need to be prepared to care for children, enjoy to be with them, seek knowledge, own responsibility towards society and work to build a better world, develop sensitivity to the problems of the learners, commitment to justice and zeal for social reconstruction.
- Teachers need to view learners as active participants in their own learning and not as mere recipients of knowledge; need to encourage their capacity to construct knowledge; ensure that learning shifts away from rote methods. Learning is to be viewed as a search for meaning out of personal experiences and knowledge generation as a continuously evolving process of reflective learning.
- Teacher education must engage with theory along with field experiences to help trainees to view knowledge not as external to the learner but as something that is actively constructed during learning. Teacher education

should integrate academic knowledge and professional learning into a meaningful whole.

- Teachers need to be trained in organizing learner-centred, activity-based, participatory learning experiences – play, projects, discussion, dialogue, observation, visits, integrating academic learning with productive work.
- Teacher education should engage teachers with the curriculum, syllabi and textbooks to critically examine them rather than taking them as 'given' and accepted without question.
- Teacher education should provide opportunity to student-teachers for reflection and independent study without packing the training schedule with teacher-directed activities alone.
- The programme should engage teachers with children in real contexts rather than teach them about children through theories alone. It should help them understand the psycho-social attributes and needs of learners, their special abilities and characteristics, their preferred mode of cognition, motivation and learning resulting from home and community socialization.
- The programme should help teachers or potential teachers to develop social sensitivity and consciousness and finer human sensibilities.
- Teacher education programmes need to broaden the curriculum (both school and teacher education) to include different traditions of knowledge; educate teachers to connect school knowledge with community knowledge and life outside the school.
- Teacher education programmes need to help teachers appreciate the potential of hands-on experience as a pedagogic medium both inside and outside the classroom; and work as integral to the process of education.
- Teachers need to re-conceptualize citizenship education in terms of human rights and approaches of critical pedagogy; emphasize environment and its protection, living in harmony within oneself and with natural and social environment; promote peace, democratic way of life, constitutional values of equality, justice, liberty, fraternity and secularism, and caring values.
- In view of the many-sided objectives of teacher education the evaluation protocol needs to be comprehensive and provide due place for the evaluation of attitudes, values, dispositions, habits and hobbies, in addition to the conceptual and pedagogical aspects through appropriate quantitative as well as qualitative parameters.

Accordingly, a new approach to courses of teacher education has been incorporated. The curriculum of teacher education is broadly dealt with under foundations of education, curriculum and pedagogy and school internship and practice.

The foundations of education include learner studies, contemporary studies, and educational studies. Curriculum and pedagogy deal with curriculum studies, pedagogic studies and assessment and evaluation studies. The school internship is visualized by situating the practice of teaching in the broader context of vision and the role of teacher and sustained engagement with learners and schools. In a departure from the existing approaches, the rationale of each major area along with curricular provisions, both in theory and practicum, have been indicated, leaving scope for individual reflection on the part of the institutions offering teacher education and the academics associated with them. Transaction of the curriculum and evaluating the developing teacher determine the extent to which the ideas conceptualized are put into practice. The focus on process-based teacher education has been attempted as models for practicing teachers to adopt/adapt. The suggestion to establish Teaching Learning Centres to act as laboratories for the theory and practice of teacher training has been emphasized. An appropriate focus on continuous and comprehensive evaluation of developing teachers has been drawn up through an evaluation protocol and suggestions given for designing instruments for assessment and evaluation. The conventional models of teacher education may continue though the Framework does provide directions towards change in the structural aspects of teacher education at elementary, secondary and post-graduate levels. One reform that could achieve a breakthrough to vitalize teacher education and through it the process of learning and teaching is to break the isolation of teacher education institutions from the university life, from the schools and from one another. The Framework reiterates in unequivocal terms the need for this reform.

Pre-service and in-service components of teacher education being inseparable, considerable focus has been given in this Framework on continuing professional development strategies. Since a major area of weakness in the existing teacher preparation programmes is the quality and experience of those who have the responsibility of training young entrants to the profession of teaching, a fresh perspective of preparation of teacher educators is dealt with in detail. This Framework is visualized to act as a catalyst to change the profile of teacher education so that the teacher education institutions become active centres not only of research but also of practical experiments directed to the improvement of educational methods and curricula. It is a matter of conviction that if teacher education institutions could be organized on right lines and become dynamic centres of progressive educational movements, the whole task of educational reconstruction would be greatly facilitated.

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