# Child Development and Pedagogy

# (A) Child Development

## Concept of Development

Development describes the growth of humans throughout the lifespan, from conception to death. The scientific study of human development seeks to understand and explain how and why people change throughout life. This includes all aspects of human growth, including physical, emotional, intellectual, social, perceptual and personality development.

Development does not just involve the biological and physical aspects of growth, but also the cognitive and social aspects associated with development throughout life.

The study of human development is important in a number of subjects, including biology, anthropology, sociology, education, history and psychology. However, most important are the practical applications of studying human development. By better understanding how and why people change and grow, one can apply this knowledge to helping people live upto their full potential.

## What is Child Development?

The field of child development involves the scientific study of the patterns of growth, change and stability that occurs from conception through adolescence. It gives an understanding of how a child is able to do complex things as he gets older.

In order to study the growth, change and stability, child development takes a scientific approach. Like members of other scientific disciplines, researchers in child development test their assumptions about the nature and course of human development by applying scientific methods.

Child development focuses on humans. Although there are some development who study the course of development in non-human species the vast majority examine the growth and changes in people.

However, regardless of approach, all child developmentalists view development as a continuing process throughout childhood and adolescence.

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### Aims of Child Development

1. To make us aware that the child is developing normally.
2. To enable us to identify a child, who for the some reason, may not be following the normative stages.
3. To enable us to build up a picture of a child's progress for a particular period of time.
4. To enable us to look forward to respond to age-related behaviour which is an individual source of guidance is providing for your child's developmental needs.
5. To help us to consider the fact that every child is different from each-other in quite normal ways.

6. To make us aware that every child follows the same sequence of growth and development as other children but the speed varies.
7. To help us to be concerned about the developmental stages of a child, such as sitting up, crawling and walking or so on.
8. To help us to understand what should be expected from a child at each development stage.
9. To provide the right environment and age appropriate resources to the children.
10. To help in understanding the needs of a child and fulfilling them and allow him to reach his full potential.

Finally, child development focuses on the ways people change and grow during their lives, they also consider stability in children's and adolescents' lives. It seeks in which areas and in what periods, people show change and growth and when and how their behaviour reveals consistency and continuity with prior behaviour.

Child developmentalists believe that no particular, single period of life governs all development. Instead, they believe that every period of life contains the potential for both growth and decline in abilities and that individuals maintain the capacity for substantial and change throughout their lives.

# Scope of Child Development

Clearly, the aims of child development is broad and the scope of the field is extensive. As a result, child development covers several quite diverse areas and this is why, developmentalists specializes in two different ways : Topical area and Age range.

## Topical Areas in Child Development

Some developmentalists focus on *Physical development,* examining the ways in which the body's makeup—the brain, the nervous system, muscles and senses and the need for food, drink and sleep-helps determine behaviour.

Some other developmental specialists examine *cognitive development*, seeking to understand how growth and change in intellectual capabilities influence a person's behaviour. Cognitive developmentalists examine learning, memory, problem solving and intelligence.

Some development specialists focus on personality and social development. *Personality development* is the study of stability and change in the enduring characteristics that differentiate one person from another. While *social development* is the way in which individual interactions with others and their social relationships grow, change and remain stable over the course of life.

A brief description of the above areas of child development has been given in the following table

**Topical Areas in Child Development**

| Orientation | Defining Characteristics | Examples of Questions Asked |
|---|---|---|
| Physical Development | Examines how brain, nervous system, muscles, sensory capabilities and needs for food, drink and sleep affect behaviour | What determines the sex of a child?<br>What are the long-term results of premature birth?<br>What are the benefits of breastfeeding?<br>What are the consequences of child abuse?<br>What are the consequences of early or late sexual maturation? |
| Cognitive Development | Examines intellectual abilities, including learning, memory, problem solving, and intelligence | What are the earliest memories that can be recalled from infancy?<br>What are the consequences of watching television?<br>Do spatial reasoning skills relate to music practice? Are there benefits to bilingualism? |

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| Personality and Social Development | Examines enduring characteristics that differentiate one person from another and how interactions with others and social relationships grow and change over the lifetime | Are there ethnic and racial differences in intelligence?<br>How does an adolescent's egocentrism affect his/her view of the world?<br>Do newborns respond differently to their mothers than to others?<br>What is the best procedure for disciplining children?<br>When does a child develop a sense of gender?<br>How can we promote cross-race friendships?<br>What are the causes of adolescent suicide? |

## Age Ranges and Individual Differences in Child Development

The study of child development focuses on particular age ranges which is broadly divided childhood and adolescence into the prenatal period (the period from conception to birth); infancy and toddlerhood (birth to age 3); the pre-school period (3-6 years); middle childhood (6-12 years) and adolescence (12-20 years).

Although, most child developmentalists accept and employ these periods, the age ranges themselves are in many ways arbitrary. However some periods have one clear-cut boundary, others don't.

For instance, consider the separation between middle childhood and adolescence, which usually occurs around the age of 12. The boundary between these two stages is based on a biological change-the onset of sexual maturation-which varies greatly from one individual to another, the specific age of entry into adolescence varies from one person to the next.

Just as in the same way, cognitive, social, behavioural and intellectual development occurs in each individual in similar way at different pace and rates.

It is important to keep in mind that when developmental specialists discuss age ranges, they are talking about averages-the times when people, on average reach particular milestones. Some children reach the milestones earlier, some later and many-infact most-reach just around the time of the average. Such variation becomes note-worthy only when children show substantial deviation from the average. Following table shows the various aspects of development in different ages

**Child Development Chart**

| Stage | Physical Development | Intellectual Development, Communication and Learning | Social, Emotional and Behavioural Development |
|---|---|---|---|
| **Birth-1 Year** | **At birth** swallowing, sucking, rooting, grasp, startle, walking and standing reflexes. **By 3 months** can hold head up when lying on front, play with fingers, hold rattles. **By 6 months** reach out and grab, pass object from hand to hand, try to self feed with spoon, hold head steady, teeth appear, sit up in high chair, roll over from back to front, push up on their hands when on their front, lift up arms and legs while on front. **By 9 months** crawling or shuffling, sit up unsupported, pincer grasp, objects explored by hands and mouth. | **At birth** recognise mother's voice and smell. **By 1 month** has different cries, responds to soothing voices, will focus on face of whoever is holding them. **By 3 months** learnt difference between day and night, sleep through the night, less crying, first smiles. **By 6 months** can focus on interesting objects, start to show understanding of language, try to communicate. **By 9 months** more exploration of surroundings, babbling. Learning through exploration of surroundings using their 5 senses. | **At 4-6 Weaks** first smiles, responsive to all adults. **At 2 months** starts to make attachments with primary carers. **At 3 months** shows pleasure appropriately. **At 5 months** smiles at mirror image. **At 6 months** stranger shyness. **At 9-10 months** apprehensive about strangers. Up to age 4 babies and toddlers have no understanding of right and wrong but learn this through their own trial and error based on the consequences to themselves of their actions. |

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|---|---|---|---|
| **1-2 Years** | **By 1 year** standing up holding on, crawling efficiently, walking holding on, fully developed eyesight, self-feeding with fingers, can wave goodbye, developing fine motor control, can point. **By 18 months** can walk, can walk up and down stairs with help, try to self-feed with spoon, pick up objects from floor when standing, jump with both feet, build a 2-3 brick tower, throw a ball, enjoy ride-on toys. | **By 1 year** know parents and main carers, cry when left with strangers, smile for parents, strongly bonded to parents, understand more of what's happening around them, notice what others are doing, understand more of what's said, beginnings of first words **By 18 months** understand that they are separate from parents, protest if they do not get what they want, developing language skills, several words, more understanding of language, start to develop a mind of their own. | Cooperates with dressing, waves goodbye, understands simple commands, strongly attached to main carers. **At 7-24 months** child protests at separation from main carer-separation anxiety. **At 18 months** demands constant mothering, drinks from cup with both hands, feeds self with spoon, signs of temper and frustration, eager for independence. |
| **2-3 Years** | **By 2 years** moves confidently, enjoy handling objects, build a 6 brick tower, can run, climb and walk up and down 2 feet per step, enjoy moving to music, push himself along on a tricycle, turn pages of a book, manipulate jigsaw pieces. | **By 2 years** showing individuality, knows what he wants, gets frustrated when he thwarted, temper tantrums common, communicate positive emotions with laughs, smiles and squeals, can complete simple jigsaws, language developing well : putting two words together, use pretend play to learn about the world, still unable to see another's viewpoint, egocentric. | Learning to explore their environment and gain control over body and bowels, try to do some things independently *e.g.,* dressing. Begins to understand carers needs, shows extremes of emotion, plays alongside other children, dry by day. |
| **3-4 Years** | **Around 3 years** most children master the toilet, can go up stairs 1 foot per step and down stairs 2 feet per step, can build a 9 brick tower, can copy a circle and draw a man, enjoy sand and water play and dressing up, have limited stamina. | **By 3 years** able to express feeling verbally, understand what is happening and the needs of others, understand that parents will return so no separation anxiety, enjoy dressing up and small world toys *e.g.,* dolls house, interested in mark making, painting and books, sand and water play. | Fewer tantrums due to increasingly competent communication, can cooperate with other children in play, undresses with assistance, may have imaginary friends. |
| **4-5 Years** | **By 4 years** can dress and feed himself enjoy simple ball games, increasing manual dexterity, can thread and use scissors, can go down stairs 1 foot per step, can skip and hop. | **By 4 years** speech should be fairly fluent and understood by strangers, but with occasional grammatical errors and mispronunciation, enjoy asking questions and talking, enjoy being given responsibility and encouragement from adults. | Dresses and undresses with minimal assistance, toilets independently, can plan and carry out activities, learning about gender role, moral judgements made dependent on expectations of adults. |
| **5-6 Years** | Physical development now slowing down, but coordination improving, can kick and control a ball, handwriting more legible, know right from left. | Enjoy listening to and telling jokes, be in formal education, enjoy intellectual challenge of learning to read and write, enjoy playing games with rules. | Friends start to become a part of the child's life as they attend school and are separated more from parents. |

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|---|---|---|---|
| **6-9 Years** | Now developing more gradually, continue to grow taller, increasing competency in completing simple tasks, increasing speed of writing, stamina increases as heart and lungs grow. | Games become more organised, understand rules and consequences, can solve simple problems, enjoy working things out for themselves, respond well to clear explanations of rules and when behaviour is praised, will become competent and confident in reading and writing, can complete simple tasks quickly, confidently and accurately, will compare himself to others, able to think through things without having had personal experience of them, can solve problems using practical supports, *e.g.,* counters, less egocentric, more rational and logical thought processes. | Preoccupied with justice and following rules, have developed a concept of fairness and consider motives for others' actions. |
| **10-13 Years** | Has now mastered many skills, can write, draw, have fast and more coordinated fine and large movements, puberty starts, stamina increases dramatically, for boys more than girls. | Can draw detailed representational drawings, writing shows imagination and is legible and reasonably grammatically correct, can solve problems, play cooperatively, use materials fairly, has awareness of consequences of behaviour and increased thoughtfulness, growing awareness of different gender roles, may push the boundaries due to increasingly independent thought. | Understands concept of equity and that treating people in exactly the same way may not result in fairness *e.g.,* a child who doesn't understand his homework will need more of the teacher's time than one who does. |
| **14-16 Years** | Puberty usually completed by 15 for girls and 17 for boys. | May have different ideas to parents, leading to possible conflict, exploring own identity and developing own personality, some may have developed high level skills *e.g.,* computer skills. | Developing their own identity. |

Thus, the variety of tropical areas and age ranges studied within the field of child development means that specialists from many diverse backgrounds and areas of expertise consider themselves developmentalists. They work in a variety of settings, including university departments of psychology, education, human development and medicine as well as nano-academic settings as varied as human service agencies and child care centres. These diverse specialists bring a variety of perspectives and intellectual richness to the field of child development.

# Principles of Child Development

There is a set of principles that characterizes the pattern and process of growth and development. These principles or characteristics describe typical development as a predictable and orderly process *i.e.,* we can predict how most children will develop and that they will develop at the same rate and at about the same time as other children. Although there are individual differences in children personalities, activity levels and timing of developmental milestones, such as ages and stages, the principles and characteristics of development are universal patterns.

Development is based on following principles

1. **Development proceeds from top to bottom** This is called the *Cephalocaudle principle*. It describes the direction of growth and development. According to this principle, the child gains

control of the head first, then the arms and then the legs. Infants develop control of the head and face movements withing the first two months after birth. In the next few months, they are able to lift themselves up by using their arms. By 6 to 12 months of age, infants start to gain leg control and may be able to crawl, stand or walk. Co-ordination of arms always precedes co-ordination of legs.

2. **Development proceeds from the center to the outward of the body** This is the principle of proximodistal development that also describes the direction of development. This means that the spinal cord develops before outer parts of the body. The child's arms develop before the hands and the hands and feet develop before the fingers and toes. Finger and toe muscles used in fine motor dexterity are the last to develop in physical development.
3. **Development depends upon maturation and learning** Maturation refers to the sequential characteristics of biological growth and development. The biological changes occur in sequential order and give children new abilities changes in the brain and nervous system account largely for maturation. These changes in the brain and nervous system help children to improve in thinking (cognitive) and motor (physical) skills. Also, children must mature to a certain point before they can progress to new skills (Readiness). *e.g.,* A 4-month old child cannot use language because infant's brain has not matured enough to allow the child to talk. By two years old, the brain has developed further and with the help of others, the child will have the capacity to say and understand words. Maturational patterns are innate *i.e.,* genetically programmed. The child's environment and the learning that occurs as a result of the child's experiences largely determine whether the child will reach optimal development. A stimulating environment and varied experiences allow a child to develop to his or her potential.
4. **Development proceeds from the simple** (concrete) **to the more complex** Children use their cognitive and language skills to reason and solve problems. *e.g.,* learning relationship between things (how they are similar), or classification, is an important mental ability in cognitive development. The cognitive process of learning how an onion and a potato are alike begins with the most simplistic or concrete thought of describing the two. Seeing no relationship, a pre-schooler child will describe the objects according to some common feature between them. Like, they can say—''Potato and onion are alike because they both are round." Such a response is associated with the first level of thinking that is based on concrete thoughts between the two objects.

   As child develop further in cognitive skills, they are able to understand a higher and more complex relationship between objects and things, *e.g.,* an onion and a potato exist in a class called vegetable. The child cognitively is then capable of classification.
5. **Growth and development is a continuous process** As a child develops, he or she adds to the skills already acquired and the new skills become the basis for further achievement and mastery of skills. Most children follow a similar pattern. Also one stage of development lays the foundation for the next stage of development. *e.g.,* in motor development, there is a predictable sequence of developments that occurs before walking. The infants lift and turns the head before he or she can turn over. Infants can move their limbs (arms and legs) before grasping the objects. Mastery of climbing stairs involves increasing skills from holding on to walking alone. By the age of four, most children can walk up and down stairs with alternating feet likewise, as in maturation, in order to write or draw, children must have developed the manual (hand) control to hold a pencil or crayon.
6. **Growth and development proceeds from general to specific** In motor development, the infant is able to grasp an object with the whole hand just after birth before using only the thumb and forefinger. The infant's first motor movement are very generalised, undirected and reflexive, waving arms or kicking before being able to reach or creep toward an object. Growth occurs from large muscle movements to more refined (smaller) muscle movements.
7. **There are individual rates of growth and development** Each child is different and so the rates at which individual children grow is also different. Although the patterns and sequences for growth and development are usually the same for all children, the rates at which children reach developmental stages are different. Understanding this fact of Individual differences in rates of development should cause us to be control about using and relying on age and stage characteristics

to describe or label children. There is a range of ages for any development task to take place. This rejects the notion of the 'average child'. Some children walk at 10-months while others walk a few months older at eighteen months of age. Some children are more active while others are more passive. This does not mean that the passive child is less intelligent as an adult. There is no validity to comparing one child's progress with or against another child. Rates of development also are not uniform within an individual child. *e.g.,* a child's intellectual development may progress faster than his emotional or social development.

Thus, understanding of the principles of development helps us to plan appropriate activities and stimulating and enriching experiences for children and provides a basis for understanding how to encourage and support young children's learning.

## Influence of Heredity and Environment on Child Development

Nature *vs* Nurture, Heredity *vs* Environment, Genetic influence *vs* Situational influence - whatever we choose to state it, each of these statements reflects an enduring question that has intrigued and puzzled developmental researchers about the root causes of human behaviour that whether behaviour is produced by inherited genetic influence or is it triggered by factors in the environment.

The nature versus nurture debate is one of the oldest issues in psychology. It concerns the relative importance of an individual's innate qualities versus personal experiences in determining or causing individual differences in physical and behavioural traits.

The nature side of this debate emphasizes how much of an organism reflects biological factors. Some philosophers such as Plato and Socrates suggested that certain things are inborn or that they simply occur naturally regardless of environmental influences. The nurture side, on the other hand, emphasizes how much of an organism reflects environmental factors. Thinkers such as John Locke believed in what is known as *tabula rasa*, which suggests that the mind begins as a blank slate. According to this notion, everything that we are and all of our knowledge is determined by our experience.

In reality, it is most likely an interaction of genes and environment, nature and nurture that affect the development of a person. *e.g.,* today the majority of experts believe that if a person achieves tremendous academic success, it is not so because he is physically) fit or he has a healthy surrounding around him but his behaviour and development are influenced by both nature and nurture. However, the issue still rages on in many areas such as in the debate on the origins of homosexuality and influences on intelligence. Similarly, even if a person has inherited genes for taller than average height, the person may not grow to be as tall as is genetically possible if proper nutrition is not provided. Here, too the interaction of genes and the environment is blurred. Hence, it has been suggested that the key to understanding complex human behaviour and diseases is to study genes, the environment and the interactions between the two equally.

## How Learning is Co-related to Development?

Learning means to gain knowledge, understanding and skills. An even broader term learning can be defined as "any permanent change in behaviour that occurs as a result of a practice or an experience." It reveals that what children learn themselves is more important than they are taught because of its lasting affect in their behaviour children are bundle of ideas and thoughts and they think differently from an adult and express differently too. The areas of learning and development comprise

- Physical Development
- Knowledge and understanding of the world
- Communication, language and literacy
- Personal, social and emotional development
- Problem solving, reasoning and numeracy
- Creative development

These six areas of learning together make up the skills, knowledge and experiences appropriate to children as they grow, learn and develop. Although they seem as separate areas, it is important to remembers that for children everything is linked, nothing is compartmentalised.

The challange for practioners is to ensure that children's learning and development occur as as outcome of their individual interests and abilities and that planning for learning and development takes account of these.

Now, we will discuss the various aspects of learning and development areas

1. **Physical Development** The physical development of young children must be encouraged through the provision of opportunities for them to be active and interactive and to improve their skills of coordination, control, manipulation and movement. They must be supported in using all of their senses to learn about the world around them and to make connections between new information and what they already know. They must be supported in developing an understanding of the importance of physical activity and making healthy choices in relation to food.

## Aspects of Physical Development

Physical development is made up of the following aspects

**Movement and Space** Itis about how children learn to move with confidence, imagination and safety, with an awareness of space, themselves and others.

**Health and Bodily Awareness** It is about how children learn the importance of keeping healthy and the factors that contribute to maintaining their health.

**Using Equipment and Materials** It is about the ways in which children use a range of small and large equipment.

**What Physical Development meant for children?**

- Children learn by being active and physical development takes place across all areas of learning and development.
- Physical development helps children to gain confidence in what they can do.
- Physical development enables children to feel the positive benefits of being healthy and active.
- Physical development helps children to develop a positive sense of well-being.
- Good health in the early years helps to safeguard health and well-being throughout life. It is important that children develop healthy habits when they first learn about food and activity. Growing with appropriate weight gain in the first years of life to guard against obesity in later life.

2. **Aspects of Knowledge and Understanding of the World** Knowledge and understanding of the world is made up of the following aspects

   **Exploration and Investigation** It is about how children investigate objects and materials and their properties, learn about change and patterns, similarities and differences and question how and why things work.

   **Designing and Making** It is about the ways in which children learn about the construction process and the tools and techniques that can be used to assemble materials creatively and safely.

   **ICT** It is about how children find out about and learn how to use appropriate information technology such as computers and programmable toys that support their learning.

   **Time** It is about how children find out about past and present events relevant to their own lives or those of their families.

   **Place** It is about how children become aware of and interested in the natural world and find out about their local area, knowing what they like and dislike about it.

   **Communities** It is about how children begin to know about their own and other people's cultures in order to understand and celebrate the similarities and differences between them in a diverse society.

**What Knowledge and Understanding of the World meant for children?**

- Children find out about the world through exploration and from a variety of sources, including their families and friends, the media and through what they see and hear.
- Children need regular opportunities to learn about different ways of life, to be given accurate information and to develop positive and caring attitudes towards others.
- Children should be helped to learn to respect and value all people and learn to avoid misapprehensions and negative attitudes towards others when they develop their knowledge and understanding of the World.
- Children should be involved in the practical application of their knowledge and skills which will promote self-esteem through allowing them to make decisions about what to investigate and how to do it.

3. **Aspects of Communication, Language and Literacy** Communication, language and literacy is made up of the following aspects

   **Language for Communication** It is about how children become communicators. learning to listen and speak emerges out of non-verbal communication, which includes facial expression, eye contact and hand gesture. These skills develop as children interact with others, listen to and use language, extend their vocabulary and experience stories, songs, poems and rhymes.

   **Language for Thinking** It is about how children learn to use language to imagine and recreate roles and experiences and how they use talk to clarify their thinking and ideas or to refer to events they have observed or are curious about.

   **Linking Sounds and Letters** It is about how children develop the ability to distinguish between sounds and become familiar with rhyme, rhythm and alliteration. They develop understanding of the correspondence between spoken and written sounds and learn to link sounds and letters and use their knowledge to read and write simple words by sounding out and blending.

   **Reading** It is about children understanding and enjoying stories, books and rhymes, recognising that print carries meaning, both fiction and fact, and reading a range of familiar words and simple sentences.

   **Writing** It is about how children build an understanding of the relationship between the spoken and written word and how through making marks, drawing and personal writing children ascribe meaning to text and attempt to write for various purposes.

   **Handwriting** It is about the ways in which children's random marks, lines and drawings develop and form the basis of recognisable letters.

**What Communication, Language and Literacy meant for children?**

- To become skilful communicators, children need to be with people with whom they have warm and loving relationships, such as their family or carers and, in a group situation, a key person whom they know and trust.
- Children respond differently to different sounds and from an early age are able to distinguish sound patterns. They use their voices to make contact and to let people know what they need and how they feel. They learn to talk by being talked to.
- All children learn best through activities and experiences that engage all the senses. Music, dance, rhymes and songs support language development
- As children develop speaking and listening skills, they build the foundations for literacy, for making sense of visual and verbal signs and ultimately for reading and writing. Children need varied opportunities to interact with others and to use a wide variety of resources for expressing their understanding, including mark-making, drawing, modelling, reading and writing.

4. **Personal, Social and Emotional Development** Children must be provided with experiences and support which will help them to develop a positive sense of themselves and of others, respect for others, social skills and a positive disposition to learn. Providers must ensure support for children's emotional well-being to help them to know themselves and what they can do.

## Aspects of Personal, Social and Emotional Development

Personal, social and emotional development is made up of the following aspects

**Dispositions and Attitudes** It is about how children become interested, excited and motivated about their learning.

**Self-confidence and Self-esteem** It is about children having a sense of their own value and understanding the need for sensitivity to significant events in their own and other people's lives.

**Making Relationships** It is about the importance of children forming good relationships with others and working alongside others companionably.

**Behaviour and Self-control** It is about how children develop a growing understanding of what is right and wrong and why, together with learning about the impact of their words and actions on themselves and others.

**Self-care** It is about how children gain a sense of self-respect and concern for their own personal hygiene and care and how they develop independence.

**Sense of Community** It is about how children understand and respect their own needs, views, cultures and beliefs and those of other people.

**What Personal, Social and Emotional Development meant for children?**

- For children, being special to someone and well cared-for is vital for their physical, social and emotional health and well-being.
- Being acknowledged and affirmed by important people in their lives leads to children gaining confidence and inner strength through secure attachments with these people.
- Exploration within close relationships leads to the growth of self-assurance, promoting a sense of belonging which allows children to explore the world from a secure base.
- Children need adults to set a good example and to give them opportunities for interaction with others so that they can develop positive ideas about themselves and others.
- Children who are encouraged to feel free to express their ideas and their feelings, such as joy, sadness, frustration and fear, can develop strategies to cope with new, challenging or stressful situations.

5. **Problem Solving, Reasoning and Numeracy** (PSRN) Children must be supported in developing their understanding of problem solving, reasoning and numeracy (PSRN) in a broad range of contexts in which they can explore, enjoy, learn, practise and talk about their developing understanding. They must be provided with opportunities to practise and extend their skills in these areas and to gain confidence and competence in their use.

   **Aspects of PSRN** PSRN is made up of the following aspects

   **Numbers as labels and for counting** It is about how children gradually know and use numbers and counting in play and eventually recognise and use numbers reliably, to develop mathematical ideas and to solve problems.

   **Calculating** It is about how children develop an awareness of the relationship between numbers and amounts and know that numbers can be combined to be 'added together' and can be separated by 'taking away' and that two or more amounts can be compared.

**Shape, space and measures** It is about how through talking about shapes and quantities, and developing appropriate vocabulary, children use their knowledge to develop ideas and to solve mathematical problems.

**What PSRN meant for children?**

- Children's mathematical development occurs as they seek patterns, make connections and recognise relationship through finding out about and working with numbers and counting, with sorting and matching and with shape, space and measures.
- Children use their knowledge and skills in these areas to solve problems, generate new questions and make connections across other areas of learning and development.

6. **Creative Development** Children's creativity must be extended by the provision of support for their curiosity, exploration and play. They must be provided with opportunities to explore and share their thoughts, creativity, ideas and feelings. *e.g.,* through a variety of art, music, movement, dance, imaginative and role-play activities, mathematics, and design and technology.

## Aspects of Creative Development

Creative development is made up of the following aspects

**Being Creative** Responding to experiences, expressing and communicating ideas - is about how children respond in a variety of ways to what they see, hear, smell, touch or feel and how, as a result of these encounters, they express and communicate their own ideas, thoughts and feelings.

**Exploring Media and Materials** It is about children's independent and guided exploration of and engagement with a widening range of media and materials, finding out about, thinking about and working with colour, texture, shape, space and form in two and three dimensions.

**Creating Music and Dance** It is about children's independent and guided explorations of sound, movement and music. Focusing on how sounds can be made and changed and how sounds can be recognised and repeated from a pattern, it includes ways of exploring movement, matching movements to music and singing simple songs from memory.

**Developing Imagination and Imaginative Play** It is about how children are supported to develop and build their imaginations through stories, role-plays, imaginative play, dance, music, design and art.

**What Creative Development meant for children?**

- Creativity is about taking risks and making connections and is strongly linked to play.
- Creativity emerges as children become absorbed in action and explorations of their own ideas, expressing them through movement, making and transforming things using media and materials such as crayons, paints, scissors, words, sounds, movement, props and make-believe.
- Creativity involves children in initiating their own learning and making choices and decisions.
- Children's responses to what they see, hear and experience through their senses are individual and the way they represent their experiences is unique and valuable.
- Being creative enables children to explore many processes, media and materials and to make new things emerge as a result.

# Socialization Process

Socialization is a process of social growth whereby the biological individual is slowly transformed into a social being. It involves several important factors by which children and adults learn from others. They learn to how to eat, how to dress-up, how to talk and behave with others etc. in the same manner as other members of their community. Unless an individual conforms to such conduct, he cannot play any effective role in the society.

We begin learning from others during the early days of life and most people continue their social learning all through life (unless some physical or mental disability slows or stops the learning process).

## Major Determinants of Socialization Process

The process of socializtion is not a simple one. There are several determinants of socialization that contribute to it. Some of the important among them are being briefly described here

1. **Family** The family is the earliest and undoubtably the most influential agent of socialization. The family and parents are most effective in moulding and shaping an individual's behaviour. The home training and discipline lays the foundation of his/her moral and social growth. Socialization via the family goes from cradle to grave.

   The power of the family as an agent of socialization comes from a combination of two factors

**(i)** The family has almost exclusive control of the person during the first years of life and peer-minent control during the childhood and adolescent years.

**(ii)** Parents-child emotional bond motivates the child to be socialized and the parents to do the difficult and lengthy job of socialization.

The family returns as a predominent agent of socialization during the adult years with the roles of marital partner and parent.

2. **Peer Groups** Peers are people of roughly the same age (also at the same stage of development and maturity), similar social identity and close social proximity. They are known as friends, buddies, pals etc. Typically, children encounter peer group influence around age three or so. With peers, the child begins to broaden his or her circle of influence to people outside of the immediate family. They learn basic rules of group interaction to more complex strategies of negotiation, dominance, leadership, co-operation, compromise etc. In their peer group as childhood, progresses, peer group interactions become more autonomous (less observed and supervised by adults).
3. **School** One of the primary agents of socialization is the schools. Next to the family, the schools are one of the first agents of socialization that children are exposed to after being socialized exclusively by the family. Schools can be viewed as having three major components-teachers, classes and texts and a culture. If all of these factors work together then the school become an effective agent, influence the development of ideas.

## Factors in Socialization

Socialization involves several important factors

1. **Social interaction** As an organised pyschological process, interaction is characterized by imitation, suggestion and sympathy.
   Imitation is a form of learning which leads to increased uniformly in individual's behaviour through suggestion. A person behaves in a group in accordance with pre existing habits. He inhibits social action along some lines and express it along others. By virtue of prior social conditioning through sympathy which originates in the relation of dependence of the child upon his parents. The individual is able to perceive the psychological state of another person.
2. **Social perception** Until recently, it was believed that all normal individuals perceive the world as it is today as the consequence of vast psychological research. Our perception is formed by memory, imagination, wishes, emotions, opinion of others and social values. Hence, perception is the function of the individual's social-psychological organization.
3. **The nature of stimulus situation** As the stimulus situation becomes more vague, the influence of the majority becomes stronger. A good example of this is the case of Hitler's infused order and hope for an organized and hopeful nation which made people follow him quite blindly.
4. **Social learning** Socialization is a learning process and learning is the basis of most human behaviour above simple physiological adjustment.
5. **Enculturation** This is the process of being exposed to the various traditional and customary practices pertaining to one's own culture. Culture plays an important role in determining the process of socialization.

Erikson was a psychologist and psychoanalyst known for his theory on **social development** of human beings. Like Freud, Erik Erikson believed that every human being goes through a certain number of stages to reach his or her full development, theorizing eight stages that a human being goes through from birth to death. Erikson also believed that the environment in which a child lived was crucial to providing growth, adjustment, a source of self awareness and identity.

| Stage | Basic Conflict | Important Events | Outcome |
|---|---|---|---|
| **Infancy** (birth to 18 months) | Trust *vs.* Mistrust | Feeding | Children develop a sense of trust when caregivers provide reliabilty, care and affection. A lack of this will lead to mistrust. |
| **Early Childhood** (2 to 3 years) | Autonomy *vs.* Shame and Doubt | Toilet Training | Children need to develop a sense of personal control over physical skills and a sense of independence. Success leads to feelings of autonomy, failure results in feelings of shame and doubt. |
| **Preschool** (3 to 5 years) | Initiative *vs.* Guilt | Exploration | Children need to begin asserting control and power over the environment. Success in this stage leads to a sense of purpose. Children who try to exert too much power experience disapproval, resulting in a sense of guilt. |
| **School Age** (6 to 11 years) | Industry *vs.* Inferiority | School | Children need to cope with new social and academic demands. Success leads to a sense of competence, while failure results in feelings of inferiority. |
| **Adolescence** (12 to 18 years) | Identity *vs.* Role Confusion | Social Relationships | Teens need to develop a sense of self and personal identity. Success leads to an ability to stay true to yourself, while failure leads to role confusion and a weak sense of self. |
| **Early Adulthood** (19 to 40 years) | Intimacy *vs.* Isolation | Relationships | Young adults need to form intimate, loving relationships with other people. Success leads to strong relationships, while failure results in loneliness and isolation. |
| **Middle Adulthood** (40 to 65 years) | Generativity *vs.* Stagnation | Work and Parenthood | Adults need to create or nurture things that will outlast, them often by having children or creating a positive change that benefits other people. Success leads to feelings of usefulness and accomplishment, while failure results in shallow involvement in the world. |
| **Maturity** (65 to death) | Ego Integrity *vs.* Despair | Reflection on Life | Older adults need to look back on life and feel a sense of fulfillment. Success at this stage leads to feelings of wisdom, while failure results in regret, bitterness and despair. |

## Types of Socialization

**Primary socialization** for a child is very important because it sets the ground work for all future socialization. Primary socialization occurs when a child learns the attitudes, values and actions appropriate to individuals as members of a particular culture. It is mainly influenced by the immediate family and friends. *e.g.*, if a child saw his/her mother expressing a discriminatory opinion about a minority group, then that child may think this behaviour is acceptable and could continue to have this opinion about minority groups.

**Secondary socialization** refers to the process of learning what is the appropriate behaviour as a member of a smaller group within the larger society. It takes place outside the home (like—schools, parks, neighbourhood etc.) where children and adults learn how to act in a way that is appropriate for the

situations. Secondary socialization is usually associated with teenagers and adults and involves smaller changes than those occurring in primary socialization.

**Anticipatory socialization** refers to the processes of socialization in which a person 'rehearses' for future positions, occupations and social relationships. *e.g.,* a couple might move in together before getting married in order to try out or anticipate, what living together will be like. Parents are the main source of anticipatory socialization in regards to job and careers.

**Re-socialization** refers to the process of discarding former behaviour patterns and reflexes, accepting new ones as part of a transition in one's life. This occurs throughout the human life cycle. Re-socialization can be an intense experience, with the individual experiencing a sharp break with his or her past, as well as a need to learn and be exposed to radically different norms and values.

**Organizational socialization** is the process whereby an employee learns the knowledge and skills necessary to assume his or her organizational role. As newcomers become socialized, they learn about the organization and its history, values, jargon, culture and procedures. This acquired knowledge about new employees' future work environment affects the way they are able to apply their skills and abilities to their jobs. How actively engaged the employees are in pursuing knowledge affects their socialization process.

**Group socialization** Group socialization is the theory that an individual's peer groups, rather than parental figures, influences his or her personality and behaviour in adulthood. Adolescents spend more time with peers than with parents. Therefore, peer groups have stronger correlations with personality development than parental figures do. *e.g.*, twin brothers, whose genetic makeup are identical, will differ in personality because they have different groups of friends, not necessarily because their parents raised them differently.

**Gender socialization** refers to the learning of behaviour and attitudes considered appropriate for a given sex. Boys learn to be boys and girls learn to be girls. This 'learning' happens by way of many different agents of socialization. The family is certainly important in reinforcing gender roles, but so are one's friends, school, work and the mass media. Sociologists have identified four ways in which parents socialize gender roles in their children: Shaping gender related attributes through toys and activities, differing their interaction with children based on the sex of the child, serving as primary gender models and communicating gender ideals and expectations.

**Racial socialization** is defined as the developmental processes by which children acquire the behaviors, perceptions, values and attitudes of an ethnic group and come to see themselves and others as members of the group. Researchers have identified five dimensions that commonly appear in the racial socialization literature : cultural socialization, preparation for bias, promotion of mistrust, egalitarianism and other.

# Piaget, Kohlberg and Vygotsky : Constructs and Critical Perspective

**Cognitive Development Theory by Jean Piaget**

- Jean Piaget was a Swiss psychologist, who described the mechanism by which the mind processes new information. Basically, he was a developmental biologist who devoted his life to closely observing and recording the intellectual abilities of infants, children and adolescents. His theory is based on a stage approach to development.
- He argues that infants do not acquire knowledge from facts communicated by others, nor through sensation and perception. Instead, Piaget suggests that knowledge is the product of direct motor behaviour.
- Piaget assumes that all children pass through a series of universal stages in a fixed order. He also believes that not only does the quantity of information acquired in each stage increase, but the quality of knowledge and understanding grows as well.
- According to Piaget, such cognitive development occurs in an orderly fashion. Children pass through four major stages as they move from birth through adolescence. He said that movement from one stage to the next occurs when a child reaches an appropriate level of physical maturation and is exposed to relevant types of experience. Without such experiences, children are assumed to be incabaple of reaching their cognitive potential.

## Piaget's General Concepts of Cognitive Development

**Stage** A period in a child's development in which he or she is capable of understanding some things but not others.

**Schema/Scheme** An organised pattern of sensori-motor representation in the mind of a set of perception, ideas and/or actions which go together.

**Operation** The process of working something out in your head. Young children (in the sensorimotor and pre-operational stages) have to act and try things out in the real world, to work things out (like count on fingers) older children and adults can do more in their heads.

**Adaptation** What it says : adapting to the world through assimilation and accommodation.

**Assimilation** The process by which a person takes material into their mind from the environment, which may mean changing the evidence of their senses to make it fit.

**Accomodation** The process, in which people change the existing ways of thinking that occur in response to encounter with new stimuli or events.

**Note** *Assimilation and accomodation process go together, you can't have one without the other.*

## Piaget's Stages of Cognitive Development

**1st Stage Sensory-Motor Period** (0-2 years)

| Substage | Age | Description | Example |
|---|---|---|---|
| **Substage** 1 Simple reflexes | Birth-1 month | During this period, the various reflexes that determine the nature of the infant's interactions with the world are at the center of its cognitive life. | The sucking reflex causes the infant to suck at anything placed in its lips. |
| **Substage 2** First habits and primary circular reactions | 1-4 months | At this age, infants begin to coordinate what were separate actions into single, integrated activities. | An infant might combine grasping an object with sucking on it, or staring at something with touching it. |
| **Substage 3** Secondary circular reactions | 4-8 months | During this period, infants take major strides in shifting their cognitive horizons beyond themselves and begin to act upon the outside world. | A child who repeatedly picks up a rattle in her crib and shakes it in different ways to see how the sound changes is demonstrating her ability to modify her cognitive scheme about shaking rattles. |
| **Substage 4** Coordination of secondary circular reactions | 8-12 months | In this stage, infants begin to use more calculated approaches to producing events, coordinating several schemes to generate a single act. They achieve object permanence during this stage. | An infant will push one toy out of the way to reach another toy that is lying, partially exposed, under it. |
| **Substage 5** Tertiary circular reactions | 12-18 months | At this age, infants develop what Piaget regards as the deliberate variation of actions that bring desirable consequences. Rather than just repeating enjoyable activities as in Substage 4, infants appear to carry out miniature experiments to observe the consequences. | A child will drop a toy repeatedly, varying the position from which he dropped it, carefully observing each time to see where it fell. |

| Substage | Age | Description | Example |
|---|---|---|---|
| **Substage 6** Beginnings of thought | 18 months-2 years | The major achievements of Substage 6 is the capacity for mental representation or symbolic thought. Piaget argued that only at this stage can infants imagine where objects that they cannot see might be. | Children can plot in their heads unseen trajectories of objects, so that if a ball rolls under a piece of furniture, they can figure out where it is likely to emerge on the other side. |

## Basic Features

**Circular reactions** An activity that permits the construction of cognitive schemes through the repetition of a change motor event.

**Goal-directed behaviour** Behaviour in which several schemes are combined and co-ordinated to generate a single act to solve a problem.

**Object permanence** The realization that people and objects exist even when they can not be seen.

**Mental representation** An internal image of a past event or object.

**Deferred imitation** An act in which a person who is no longer present is imitated later by children after they have witnessed the person's actions.

**2nd Stage The Preoperational Period** (2-7 years)

| Stage/Age | Characteristic Behaviour |
|---|---|
| **Preoperational Phase** (2-4 years) | Increased use of verbal representation but speech is egocentric. The beginnings of symbolic rather than simple motor play. Transductive reasoning. Can think about something without the object being present by use of language. |
| **Intuitive Phase** (4-7 years) | Speech becomes more social, less egocentric. The child has an intuitive grasp of logical concepts in some areas. However, there is still a tendency to focus attention on one aspect of an object while ignoring others. Concepts formed are crude and irreversible. Easy to believe in magical increase, decrease, disappearance. Reality not firm. Perceptions dominate judgment. In moral-ethical realm, the child is not able to show principles underlying best behaviour. Rules of a game not develop, only uses simple do's and don'ts imposed by authority. |

### Basic Features

**Operations** Organized, formal and logical mental processes.

**Symbolic functions** The ability to use a mental symbol, a word or an object to stand for or represent something that is not physically present.

**Concentration** The process of concentrating on one limited aspect of a stimulus and ignoring other aspects.

**Egocentric thought** Thinking that does not take into account the viewpoints of others.

**Transformation** The process in which one state is changed into another.

**Intuitive thought** Thinking that reflects preschoolers' use of primitive reasoning and their avid acquisition of knowledge about the world.

**Conservation** The knowledge that quantity is unrelated to the arrangement and physical appearance of objects.

### Period of Concrete Operations (7-12 years)

### Characteristic Behaviour

Evidence for organized, logical thought. There is the ability to perform multiple classification tasks, order objects in a logical sequence and comprehend the principle of conservation thinking becomes less transductive and less egocentric. The child is capable of concrete problem-solving.

Some reversibility now possible (quantities moved can be restored such as in arithmetic $3 + 4 = 7$ and $7 - 4 = 3$, etc.)

Class logic-finding bases to sort unlike objects into logical groups where previously it was on superficial perceived attribute such as colour. Categorical labels such as 'number' or 'animal' now available.

### Basic Features

**Classification** The ability to group objects together on the basis of common features.

**Class inclusion** The understanding, more advanced than simple classification, that some classes or sets of objects are also sub-sets of a larger class, (*e.g.,* there is a class of objects called dogs. There is also a class called animals. But all dogs are also animals, so the class of animals includes that of dogs).

**Decentration** The ability to take multiple aspects of a situation into account.

**Identity** The understanding that despite changes in shape, amount remains the same.

**Compensation** The knowledge that an increase in one dimension (such as, length) is canceled out by a decrease in another dimension (such as, width).

## Period of Formal Operations (12 years and onwards)

### Characteristic Behaviour

Thought becomes more abstract, incorporating the principles of formal logic. The ability to generate abstract propositions, multiple hypotheses and their possible outcomes is evident. Thinking becomes less tied to concrete reality.

Formal logical systems can be acquired. Can handle proportions, algebraic manipulation, other purely abstract processes. If $a + b = x$, then $a = x - b$. If ma/ca = $IQ$ = 1.00 then Ma = CA.

Prepositional logic, as-if and if-then steps. Can use aids such as axioms to transcend human.

### Basic Features

**Hypothetic-deductive reasoning** The ability to start thinking with abstract possibilities and move to the concrete. In other words, they start with a general theory about what produces a particular outcome and then deduce explanations for what has brought about the outcome.

### Evaluation of Piaget's Approach

- Piaget suggests that cognitive development proceeds in universal, steplike advances that occur at particular stage. If he were correct, a person ought to perform uniformaly well once she or he reaches a given stage but it doesn't so.
- The stage theory implies that cognitive growth is typified by reatively rapid shifts from one stage to the next. In contrast, many develop argue that cognitive development proceeds in a more continuous fashion, increasing not so much in qualitative leaps forward as in quantitative accumulations.
- Critics suggest that Piaget underestimated the age at which certain capabilities emerge but now it is widely accepted that infants and children are more shopisticated at an early age.

These criticism of Piaget's approach to cognitive development have considerable merit. However, Piaget made a momentous contribution to our understanding of cognitive development and his work remains highly influential.