
UNIT 1 CONCEPT OF DEVELOPMENT, GROWTH AND DEVELOPMENT, LIFE SPAN PERSPECTIVE, METHODS OF STUDYING DEVELOPMENT AND CHARACTERISTICS OF DEVELOPMENT

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1.0 INTRODUCTION

From the moment the human child is first conceived, to the day the individual dies, they keep changing constantly and developing. While some of the changes humans undergo are as a result of chance incidents and personal choices, the vast majority of life changes and stages the human passes through are due to certain common biological and psychological factors partly inherited and partly environmental and are shared by all people.

Development refers to the biological and psychological changes that occur in human beings between birth and the end of adolescence, as the individual progresses from dependency to increasing autonomy. Because these developmental changes may be

strongly influenced by the genetic and environmental factors during prenatal life and these are the part of the study of child development. Developmental change may occur as a result of genetically-controlled processes known as maturation, or as a result of environmental factors and learning, but most commonly involves an interaction between the two. Developmental psychology refers to development throughout the lifespan, and pediatrics, the branch of medicine relating to the care of children.

In this unit we are also going to introduce the concept of life span development. It deals with important developmental stages that human beings go through birth, infancy, adolescence, adulthood, old age and death. As the humans grow up from one stage to another stage they learn to make use of their body parts, learn how to express themselves and communicate with persons, learn how to maintain relationship with others and how to love and care for others. In this unit we will be focusing on the concept of development, issues and stages. In development of humans, and then put forward the concept of life span development, and its characteristics and theories of child development.

1.1 OBJECTIVES

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

- define the concept of human development;
- describe about the growth and development;
- explain life span perspectives;
- explain the significant issues involved in the process of human development;
- identify the stages and important domains of development;
- analyse the characteristic features of life span development; and
- explain the research methods and its obstacles in studying the life span.

1.2 CONCEPT OF DEVELOPMENT

Development describes the growth of humans throughout the lifespan, from conception to death. It refers to development as patterns of change over time. It does not just involve the biological and physical aspects of growth, but also the cognitive and social aspects related to the development. The scientific study of human development seeks to understand and explain how and why people change throughout life. This field examines change across a broad range of topics including motor skills and other psycho physiological processes. Cognitive development refers to the areas of problem solving, moral understanding, conceptual understanding, language acquisition, social, personality, and emotional development, and self-concept and identity formation. Growth is defined as an increase in size. In other words development is defined as a progression towards maturity. Even though development is a continuous process with competencies developing, then disappearing, only to appear at a later age, it is not continuous in the sense that it increases constantly but rather in a series of waves with whole segments of development reoccurring repetitively. For example, new borns walk, if held, and then this ability disappears only to reappear at eight or ten months of age.

1.2.1 Goals of Development Changes

The goal of development is to enable people to adapt to the environment in which they live. Self actualisation is essential to achieve these changes. It plays an important

role in mental health; people who make good personal and social adjustment must have opportunities to express their interest and desires in ways that give them satisfaction but, at the same time, conform to accepted standards. Lack of these opportunities will result in frustrations and generally negative attitudes towards people and life in general.

1.3 GROWTH AND DEVELOPMENT

Growth refers to the development of children from birth to adolescence. From newborns to teenagers, parents often have questions if their children are developing normally. WHO is also coordinating an international effort to develop child growth standards for infants and young children (age 0-5 years). There is a process of child development, which makes a growth curve. Growth curve is defined as a statistical curve derived from plotting weight and height against chronological age for comparing an individual child's growth pattern with the average age of growth. In short we can say that personality is influenced by many factors and these factors are involved in the development of the personality of a child.

The strongest factor in the process of development of personality is society and the child's experiences in the society and in the environment. Most of the children's learning comes from the society, their surroundings and their experiences. Although these experiences are supervised by the parents and teachers, more often they occur in spontaneous family or neighborhood settings. As such one finds that every child is different from the other. Another factor that influences personality is the cultural factors. Through everything from music, television, and incidental remarks overheard but hardly understood by the child to deliberate modeling and training, the child is encouraged to embody the typical or ideal personality of her culture.

Place is the third factor which is involved in the development of a child, in addition to the biological factor. As children grow up from one stage to another, they learn to make use of their body parts, learn how to express themselves and communicate with others. They also learn to form relationship with others, how to care for others, how to love and how to work.

Over the years, people who study children have created theories to explain how children develop. While these theorists realise that every child is special and grow in his or her unique way, they also have recognised that there are general patterns that children tend to follow as they grow up, and these patterns have been documented by the theorists. Also there are four areas in which children's growth and development take place and these are discussed below.

- i) **Physical:** Physical growth is perhaps the most obvious. Children grow in height and weight over the years and their appearance changes to a great extent during puberty. Children also develop certain physical abilities during their progression towards adulthood, including crawling, walking, running and (possibly) writing. Their motor coordination becomes well refined and they can shoot across a target relatively more accurately.
- ii) **Psychological and cognitive:** Children also develop psychologically and cognitively as their brains absorb more information and they learn how to use that information. Literally, children have to learn how to think on purpose and to process or organise all the information that comes to them from the environment. They must learn how to solve problems, to talk, and to complete mental tasks such as remembering telephone numbers or using computers.

- iii) **Social and emotional:** Children grow socially and emotionally. They learn how to interact, play, work, and live with other people such as family, friends, teachers, and employers. They learn how to understand both their own feelings and that of others' emotions. They also learn ways of dealing with strong emotions. In order to function well as independent adults, children must develop a sense of self-esteem as they go through the long process of figuring out what shape their identity will take. They develop a sense of morality as they learn the difference between right and wrong.
- iv) **Sexuality and gender identity:** Children also develop sexually and form a gender identity. This development is unique because it spans developments across the other physical, psychological, and social channels. Early on, children learn how their bodies work and look and what it means to be a boy or a girl; they learn how boys and girls are different. As they grow older and enter adolescence and puberty, they continue to learn how their bodies work sexually and how to responsibly handle their sexuality so as to balance their sexual desires and appropriate behaviour. They continue to decide for themselves what it means to be masculine or feminine throughout their lifespan.

Different theorists have come to different conclusions concerning how exactly children develop across the various developmental channels. Some theorists believe that children develop smoothly and continuously, but other theorists believe that children develop more discretely in a series of stages, each of which is fairly stable.

1.3.1 Critical Periods During Development

There are certain periods of development known as difficult periods or critical periods. It is said that children who do not get special stimulation during their time of receptivity may get stuck at this period. For instance children learn to trust the parents if parents are consistently loving, affectionate and give the child care and love unconditionally. In such cases the child learns to trust its parent and from then onwards other adults in the environment.

However if the child is neglected and abused , not given the care, affection and love, he or she may develop distrust of parents and this distrust will be transferred to other adults in the environment. It must be remembered that even though the child's development may have been adversely affected, if he or she is given an opportunity to be with foster parents who care and love the child, the latter develops the capacity to trust other adults too in course of time.

1.4 LIFE SPAN PERSPECTIVES

Life span refers to the ongoing process that we go through while growing up. It is the period of time from conception extending to death. Studying life span development is very important because it helps in describing and explaining the mysteries of human development. Life span development includes issues such as the extent to which development occurs through the gradual accumulation of knowledge versus stage like development, or the extent to which children are born with innate mental structures versus learning through experience. Many researchers are interested in the interaction between personal characteristics, the individual's behaviour, and environmental factors including social context, and their impact on development.

The scientific study of development is important not only to psychology, but also to sociology, education, and health care. By better understanding how and why people change and grow, one can then apply this knowledge to helping people live up to their full potential. Life span development is defined as the pattern of change that

begins at conception and continues through the life cycle.

Lifespan development can also be defined as a methodical, intra-individual change associated with progressions corresponding to age. The development progresses in a manner implicating the level of functioning.

Life-span developmental psychology is the field of psychology which involves the examination of both constancy and change in human behaviour across the entire life span, that is, from conception to death (Baltes, 1987). Development occurs in different domains, such as the biological (changes in our physical being), social (changes in our social relationships), emotional (changes in our emotional understanding and experiences), and cognitive (changes in our thought processes). Some developmental psychologists prefer to restrict the notion of development only to changes which lead to qualitative reorganisation in the structure of a behaviour, skill or ability (Crain, 2000).

Lifespan development is a process in which the progression initiates with the emergence of a fetus from a one celled organism. As the unborn child enters the world, the environment in which the child exists begins to influence the child's development (Educational Foundation, 2001).

The developmental periods are child and adolescence, early adulthood, middle adulthood and late adulthood. The transition in each of the developmental periods, involves a necessary change in the character of the individual's life and sometime this takes up to six years to complete the change (Smith, 2009).

The transition deals with the common developmental stages that human beings pass through: birth, infancy, adolescent, adulthood, old age and death.

1.4.1 Understanding Life Span Development

Human development is a multidisciplinary study of how people change and how they remain the same overtime. It reflects the complexity and uniqueness of each person and their experiences as well as commonalities and patterns across people. There are four interactive forces that combine to shape human development and these are given below:

- i) *Biological forces* include all genetic and health related factors that influence the development of a child. They provide raw materials (in case of genetics) and set boundary conditions (in the case of one's health) for development. Prenatal development, brain maturation, puberty, menopause, facial expression and change in cardio-vascular functioning, diet, and exercises are the some example of biological forces.
- ii) *Psychological forces* include all internal perceptual, cognitive, emotional and personality factors that affect the development of a child. Intelligence, self confidence, honesty and self esteem are examples of psychological factors.
- iii) *Socio-cultural forces* include interpersonal, societal, cultural and ethical factors that affect the development of a child. This is important to know that how people and environment interact with each other. The family, peers, coworkers and social institutions and culture influence development. Poverty is the example for socio cultural forces.
- iv) *Life cycle forces* reflect differences in how the same event affects people of different ages. Each individual is a product of a unique combination of these forces. No two individuals even in the same family experience these forces in the same way.

1.4.2 Issues in Life Span Development

Life issues are common problems, issues and/or crises that happen to normal people living normal lives. Examples include managing one's relationships so that they are healthy and functional, surviving disabilities, coping with grief, loss and self-esteem issues. A number of major issues have emerged in the study of human development.

These issues include the following:

Is development due more to genetics or environment?

Does development occur slowly and smoothly, or do changes happen in stages?

Do early childhood experiences have the greatest impact on development, or are later events equally important?

- i) **Continuity and Discontinuity:** The question of whether development is solely and evenly continuous, or whether it is marked by age-specific periods. Developmental Psychologists who advocate the continuous model describe development as a relatively smooth process, without sharp or distinct stages, through which an individual must pass.

That is, development is conceived of as a process of the gradual accumulation of a behaviour, skill, or knowledge. In contrast, those who hold to the second view would suggest that developmental change is best characterised as discontinuous in nature.

They describe development as a series of discrete stages, each of which is characterised by what had gone on in the past and how well the child was able to master the developmental tasks of that period etc. These theorists suggest that behaviours or skills often change qualitatively across time, and that new organisations of behaviours, skills, or knowledge emerge in a rather abrupt or discrete fashion.

- ii) **Stability and Change:** Another issue which is of importance to developmental psychologists is the issue of stability versus change. The question here is whether development is best characterised by stability, for example, does a behaviour or trait such as shyness stay stable in its expression over time or change. To cite an example: Could a person's degree of shyness fluctuate across the life span?
- iii) **Nature vs. Nurture:** Whether the behaviour ultimately developed by the child is due to hereditary factors or environmental factors. This issue is of great importance to psychologists. The debate over the relative contributions of inheritance and the environment is one of the oldest issues in both philosophy and psychology.

This debate concerns the relative degree to which heredity and learning affect the behaviour of the individual. Both genetic traits and environmental circumstances are involved in an individual's development, although the amount of influence the two has is not clearly evident. In fact it may be stated that the individual and his or her circumstances decide how much of the behaviour is influenced by heredity factors and how much by environmental factors. Today, most psychologists believe that it is an interaction between these two forces that causes development. Some aspects of development are distinctly biological, such as sexual development during puberty. However, the onset of puberty can be affected by environmental factors such as diet and nutrition.

1.4.3 Stages of Development

Often, developmental stages are defined by milestones. The term milestone refers to the development that has to take place according to the age of the child. For instance, almost all children start standing and walking at the age of 1 year and more, start saying a few words by the time they are one and half to two years etc. That a developmental stage has been successfully passed is indicated by the child mastering the developmental tasks of the particular period of development. Often, special milestones mark children's accomplishments, such as walking in infancy and entering school in early childhood, and these milestones can help mark children's movement inside and between developmental stages.

Individuals pass various stages throughout their life. There are systematic progressions in a certain order through a series of phases. Step by step they move closer to some form of adult status. This movement can be seen as involving changes in intellectual and physical powers (Example, changes in intelligence, expertise and ability to reason) and the impact of life events and experiences.

The main developmental periods of a human being are:

- i) Childhood and adolescence {birth to age 20 (early childhood transition by age 03)}
- ii) Early adulthood (age 17 to 45)
- iii) Middle adulthood (age 40 to 65)
- iv) Late adulthood (over 60 years of age) (*Tennat and Pogson, 1995*)

1.4.4 Domains of Human Development

The domains of development are categories used by scientists. The categories include physical, cognitive and social domains which all characterise human development. The physical domain is characterised by how humans grow and change physically, at all stages of development especially during childhood and adolescence. When the physical changes are maximum, this domain includes how humans view the world as development progresses as a result of physical development and interactions.

Psychological domain focuses on adjustment of the individual to the environment. Adjustment is the process which is essential for survival of the organism. The child has to learn to suck, ingest food, eliminate, breath on own, eliminate on own etc, which activities were taken care of when the child was still within the mother's womb.

Adjustment also is required as the child grows up to learn to eat on own, eliminate as is required and not as the child wishes. The child has to learn to talk, walk, express, communicate and so on. All these adjustments are again necessary if the child has to survive.

Adjustment to self, others and environment are important tasks which become increasingly complex as the child grows up, and which all the child has to master and accomplish. Success leads to healthy adjustment while failure leads to maladjustment. Adjustments in the way the world is viewed as the body develops are also included in this domain.

Cognitive domain focuses on learning, attention, perception and memory etc. The manner in which learning takes place and how the child makes progress in school

and home are of great importance in the child's growth and development. How these components of cognitive domain functions and improves indicate the progress the child makes. The social domain deals with the adjustment to people that are with others and learn the right ways of interactions. The cognitive domain is concerned with how learning occurs and why memory deteriorates during old age. The social domain contains adjustment in variables within social situations such as personality research, social skills and developing relationships. All the domains operate together and are affected by each other (Boyd & Bee, 2006).

Self Assessment Questions

State whether the statement is *True or False*.

- 1) Changes occur from conception to death. ()
- 2) Children's learning come from the society, his surroundings and his experiences. ()
- 3) There are four areas in which children grow. ()
- 4) Two interactive forces that combine to shape human development. ()
- 5) Two interactive forces that combine to shape human development. ()
- 6) Individuals pass only one stage through out the life. ()
- 7) As the child grows ups adjustment to self, others and environment are important tasks which become increasingly complex. ()
- 8) Psychological domain focuses on adjustment of the individual to the environment. ()

1.5 CHARACTERISTICS OF LIFE SPAN DEVELOPMENT

The lifespan perspective argues that significant modifications take place throughout development. It consists of development of humans in multidimensional, multidirectional, plastic, multidisciplinary, and contextual factors. The development involves three factors i.e. growth, maintenance and regulation.

Changes that occur are interpreted in terms of the requirements of the culture and context of the occurrences. According to Paul Baltes, humans have the capacity, plasticity and the ability for positive change to the environmental demands that are being made on the individual constantly. Individual learns ways and means to compensate and overcome difficulties throughout the life. According to Baltes positive characteristics of growing old such as learning ways to compensate and overcome (Boyd and Bee, 2006) are considered important characteristics of old age. These characteristics form a family of beliefs which specify a coherent view of the nature of development. It is the application of these beliefs as a coordinated whole which characterises the life-span approach. The important characteristics beliefs of the life span approach are given below:

- 1) **Lifelong development:** This belief has two separate aspects. First, the potential for development extends across the entire life span, that is, there is no assumption that the life course must reach a plateau or decline during adulthood and old age. Second, development may involve processes which are not present

- at birth but emerge throughout the life span. No age period dominates during development. Researchers increasingly study the experiences and psychological orientations of adults at different points in their development. Gains and losses in development occur throughout the life cycle.
- 2) **Development is Multidimensional:** Multidimensionality refers to the fact that development cannot be described by a single criterion such as increases or decreases in a behaviour. It occurs in the biological, cognitive and social emotional domains.
 - 3) **Development is Multidirectional:** The principle of multidirectional maintains that there is no single, normal path that development must or should take. In other words, healthy developmental outcomes are achieved in a wide variety of ways. Development is often comprised of multiple abilities which take different directions, showing different types of change or constancy. Some dimensions or aspects of development may be increasing while others are declining or not changing.
 - 4) **Development is Plastic:** Plasticity refers to the within-person variability which is possible for a particular behaviour or development. For example, infants who have a hemisphere of the brain removed shortly after birth (as a treatment for epilepsy) can recover the functions associated with that hemisphere as the brain reorganises itself and the remaining hemisphere takes over those functions. A key part of the research agendas in developmental psychology is to understand the nature and the limits of plasticity in various domains of functioning. Development can be modified by life circumstances to some extent. Plasticity involves the degree to which characteristics change or remain stable.
 - 5) **Development is Contextual:** Development varies across the different contexts in which we live our lives. For example, social and rural environments are associated with different sets of factors which have the potential to impact on development; understanding how development differs for individuals within these two settings requires an understanding of the differing contexts. It occurs in the context of a person's biological make-up, physical environment and social, historical and cultural contexts.
 - 6) **Development is Multidisciplinary:** The study of developmental psychology is multidisciplinary. That is, the sources of age-related changes do not lie within the province of any one discipline. For example, psychological methodologies may not be appropriate for understanding factors that are sociological in nature. Rather, an understanding of human development will be achieved only by research conducted from the perspective of disciplines such as sociology, linguistics, anthropology, computer science, neuroscience and medicine.
 - 7) **Development involves Growth, Maintenance, and Regulation:** The mastery of life involves conflict and competition among three goals of human development: growth, maintenance and regulation.
 - 8) **Development is embedded in History:** Development is also historically situated and is always influenced by historical conditions. The historical time period in which we grow up affects our development.
 - 9) **Normative Age Graded Influences:** Biological and environmental influences that are similar for individuals in a particular age group (example: Childhood, Puberty) also influences development.

- 10) **Normative History Graded Influences:** Biological and environmental influences that are associated with history that are common to people of a particular generation (example: Depression, the AIDS epidemic) also influences.
- 11) **Non-normative Events:** Unusual occurrences that have a major impact on an individual's life; the occurrence, the pattern, and sequence of these events are not applicable to most individuals (e.g. Death of a parent at young age, getting a serious illness, winning a lottery).

1.6 FACTS OF DEVELOPMENT

We all know that development is the critical period for child development. Some significant facts must be taken into consideration to understand the pattern of development. Each of these has important implications and is explained as follows:

- 1) **Early foundations are critical:** Early foundations are critical because attitudes, habits and pattern of behaviour established during early years determine to a large extent how successfully individuals will adjust in their later life.
- 2) **Role of maturation and learning in development:** Maturation and learning play a significant role in the development. Maturation is unfolding individual's inherent traits. Learning is development that occurs from experience and efforts on the individual's part. Maturation provides the raw material for learning. Generally development is influenced by the interaction of both.
- 3) **Development follows a definite and predictable pattern:** It follows a definite and predictable pattern. There are orderly patterns of physical, motor, intellectual and speech development. Development is governed by certain laws: (i) Cephalocaudal Law – It means that development spreads over the body from head to foot and (ii) Proximodistal Law – It means that development spreads outward from the central axis of the body to extremities.
- 4) **All individuals are different:** No two people react in the same way to the same environmental stimuli and, one can never predict with accuracy how people will react to a situation. These individual differences are significant because they are responsible for individuality in personality make up.
- 5) **Each Phase of development has characteristic behaviour:** Each Phase has certain characteristic behaviours. The patterns are marked by periods of equilibrium, when individuals adapt easily to environmental demands and as a result make good personal and social adjustment and by periods of disequilibrium, when they experience difficulty in adaptation, make poor personal and social adjustment.
- 6) **Hazards in each phase:** Each stage is related to certain hazards such as physical, psychological and environment. These hazards inevitably involve adjustment problems. We should be aware of these hazards because awareness of these makes it possible to prevent or to at least alleviate these.
- 7) **Development is aided by stimulation:** While most development occurs as a result of maturation and environmental experiences, much can be done to aid development so that it will reach its full potential. Stimulation is especially effective at the time when ability is normally developing, though it is important at all times.
- 8) **Cultural changes affect the development:** An individual's development is molded to conform to cultural standards and norms, while changes in these standards affect the developmental pattern.

- 9) **Every stage has social expectation:** Every stage has certain societal expectation. The individual will be successful in fulfilling those expectations only if s/he is adhering to the rules and regulations of the family and society.
- 10) **Traditional beliefs:** Traditional beliefs about physical and psychological characteristics affect the judgments of others as well as their self evaluation. So long as these beliefs persist, they have a profound influence on the development pattern.

1.7 RESEARCH METHODS FOR LIFE SPAN DEVELOPMENT

As you know development is a continuous process in a development of a child. It occurs over a life time period, thus we need to special techniques are employed to study the life span development. These techniques are discussed here:

- 1) **Longitudinal method:** For the study of developmental changes in the same group or individual, over a period of time, this method is useful. The same individual is tested at different age group. Example, case study of children behaviour in classroom.
- 2) **Cross-section method:** This method studies the development changes by testing individuals of different ages at the same time only once. This method helps to get the norms or standards of typical pattern of development for different age. This is faster and cheaper method than longitudinal method. It does not loose subjects who dropout of the study since the subjects are tested only once. Example for this method is eating behaviour of 5 years old.
- 3) **Sequential method:** To overcome the drawback of longitudinal and cross-sectional method this method was used. This is best method which combines the longitudinal and cross-sectional method. People in a cross-sectional sample are tested more than once and the results are analysed to determined the differences that show up overtime for the different groups of subjects. This method gives a more realistic assessment.
- 4) **Time lag method:** This method is studying the development of different age groups in different years to determine the effect of historical events on behaviour. This method is rarely used in developmental psychology, because it takes a long time and large numbers of subjects are required and have to be the same age at the time of testing.

Self Assessment Questions

Fill in the blanks.

- 1) The development involves three factors such as _____, _____ and _____.
- 2) Gains and losses in development occur throughout the _____ development.
- 3) Multidimensional development occurs in the biological, _____ and socio-emotional domains.
- 4) Maturation and _____ play a significant role in the development.

- 5) Development is governed by two laws: (i) _____ (ii) _____.
- 6) Each stage has physical, _____ and _____ hazards.
- 7) _____ method is the best method to combine the longitudinal and cross-sectional method.
- 8) _____ studying the development of different age groups in different years to determine the effect of historical events on behaviour.

1.8 OBSTACLES IN STUDYING LIFESPAN DEVELOPMENT

There are some obstacles in the study of life span development. The five major obstacles are discussed in the following section:

- 1) **Representative Sample:** The representative sample of a subject is the first obstacle for studying the developmental period. The different age level of the subject is the main concern for the researcher. The data collection from the school children is easy for the researcher but in the case of new born or infant, it is not that much easy. They often face strong parental objection and their mood. Getting older adolescents and young adults who are not attending school to volunteer a subject is also difficult because they may not be available for study at any one particular place. The difficulty arises with the young adult, middle aged adults, or old age person, when many persons shy away from the testing situation. They don't want to disclose their personal detail to the researcher, even they are paid off.
- 2) **Establishing rapport with the subject:** The establishing personal rapport to the subject is the second difficult task for the researcher. It is rather difficult to get full personal detail about the subject. They will never share their personal detail. It is also being noted that personal rapsorts vary from one stage to another stage. Even school children and college students, who often fill tests as a part of their class work, mostly they fill false information. There is no guarantee to the information being accurate. As, a result, it is questionable whether data obtained from the subject is the true picture of subject's attitude, feelings, and values. This obstacle may be reduced only by the personal rapport with the subject.
- 3) **Appropriate Methodology:** Adaptation of an appropriate methodology is the main concern of a researcher. We take different age group subjects in a study, some time our target group may be one child, some time the subject may be an adult or some time he may be old person. Because of the wide age range of subject and the variety of different areas of development that must be studied to give a composite picture, assorted methods have to be used. Cross-sectional is the problem for researcher. Cultural changes always play a role in the patterns of physical and mental development of a child. These changes affect values of the subject.
- 4) **Accuracy of data:** Accuracy of data is the fourth obstacle in studying the life span development. The data obtained from the studies will be accurate. Inaccuracy of the data may show the picture of false information of normal development at a particular age given by the subject. The data may vary in many cases such as in regard to intelligence being studied by different methods,

or using observational method for studying the behaviour, well-being, life satisfaction or happiness. The data vary for different age levels. The accuracy of such measures is questionable. Even through the longitudinal approach has a methodology advantage over the cross-sectional approach, the problem of accuracy is still ever present.

- 5) **Ethical aspects:** The ethical aspect is a difficult task for the study of life-span development, as the rights of subject is to be considered by the researcher, even if the subject is being paid by the researcher for the study. Consent of the subject if adult and consent of parents/ guardians if child is an important and necessary step before data collection. These considerations also apply to younger or older subjects.

1.9 LET US SUM UP

In this unit we have studied about the concept of development, growth and development, meaning of life span development and methods of studying development. The key points of our discussion in this unit are:

- 1) Development refers to the biological and psychological changes that occur in human beings between birth and the end of adolescent period as the individual progresses from dependency to increasing autonomy. Because these developmental changes may be strongly influenced by the genetic and environmental factors during prenatal life, these are the part of the study of child development. Growth refers to the development of children from birth to adolescence.
- 2) There are four areas, in which children grow, i.e. (i) physical, (ii) psychological and cognitive, (iii) social and emotional and (iv) sexuality and gender identity. According to Educational Foundation (2001) lifespan development is a process beginning at conception that continues until death. The progression initiates with the emergence of a fetus from a one celled organism. As the unborn child enters the world, the environment in which the child exists begins to influence the child's development.
- 3) There are four interactive forces that combine to shape human development and these are (i) biological forces, (ii) psychological forces, (iii) socio-cultural forces and (iv) life cycle forces.
- 4) Then we discussed about the issues, stages and important domains of development. Characteristics of life span development included many development as being lifelong and following a predictable pattern etc. To understand the pattern of development, certain fundamental facts must be taken into consideration. Each of these has important implications.
- 5) To know the developmental techniques we need to use some research methods, such as longitudinal method, cross-sectional method, sequential and time lag method. In other words, there are some obstacles to apply the research methods as sample not being representative. In some cases there is difficulty in establishing rapport with the subject and yet in certain other cases, the methodology used is not appropriate and thus the accuracy of data becomes questionable. In some cases the ethical aspects of research create difficulty in getting the subject to cooperate and the researcher to collect the data.

1.10 UNIT END QUESTIONS

- 1) What is life span development?
- 2) Explain characteristics of development.
- 3) What are major issues involved in the process of development?
- 4) Describe significant facts about development.
- 5) What are the different periods of development?
- 6) What are the various domains of human development?

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1.12 ANSWERS TO SELF ASSESSMENT QUESTIONS

True or False

- 1) True, 2) True, 3) True, 4) False, 5) False, 6) False. 7) True, 8) True.

Fill in the blanks

- 1) growth, maintains, regulation
- 2) life cycle
- 3) cognitive
- 4) learning
- 5) cephalocaudal, proximodistal
- 6) psychological, environment
- 7) sequential method
- 8) time-lag method.

**Concept of Development,
Growth and Development,
Life Span Perspective,
Methods of Studying
Development and
Characteristics of
Development**