
UNIT 1 CONCEPT AND PRINCIPLES OF GROWTH AND DEVELOPMENT

Structure

- 1.1 Introduction
- 1.2 Objectives
- 1.3 Human Development
 - 1.3.1 The Concept
 - 1.3.2 Need and Importance of Studying Principles of Growth and Development
- 1.4 Stages of Development
 - 1.4.1 Infancy
 - 1.4.2 Early Childhood
 - 1.4.3 Later Childhood
 - 1.4.4 Adolescence
 - 1.4.5 Young Adulthood
 - 1.4.6 Mature Adulthood
 - 1.4.7 Aged Adulthood
- 1.5 Principles of Development
 - 1.5.1 Continuity
 - 1.5.2 Sequentiality
 - 1.5.3 Generality to Specificity
 - 1.5.4 Differentiability
- 1.6 Role of the Teacher in Facilitating Growth and Development
- 1.7 Let Us Sum Up
- 1.8 Unit-end Exercises
- 1.9 Suggested Readings
- 1.10 Answers to Check Your Progress

1.1 INTRODUCTION

Human beings keep changing. During their lives, they change in size, appearance and psychological make up. The way they change differs from individual to individual. But the fundamental underlying patterns of growth and development remain more or less the same and take place in an orderly way. Each individual, with his unique heredity and the way he is nurtured, determines the way he traverses the broad highway of his life at his rate of progress. He will attain the size, shape, capacities and developmental status in a way which is peculiar to him at each stage of life.

Growth is sometimes used to designate all the quantitative changes brought about in the structure and functions of the human anatomy and physiology. The term development means a progressive series of qualitative changes that occur as a result of maturity and experience. Thus at each stage certain developmental processes bring changes in the individual in different aspects of life: physical, social, psychological and emotional. The speed of change varies from one individual to another but it follows a definite and predictable pattern. Every individual has to go through the various stages of childhood, adolescence, adulthood, and old age. Both growth and development, at every stage, follow certain principles.

This is the first unit of this course. In this unit we shall discuss the concept and principles of human growth and development, why their systematic study is needed and how the teacher can facilitate growth and development during adolescence. We shall also discuss, in brief, various stages of development. You will also study the role of the teacher in facilitating the growth and development of school-going children. You can observe the growth of your students over a period of a few years.

1.2 OBJECTIVES

This unit is meant to help you learn the concept, the broad principles and the stages of growth and development.

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

- differentiate between growth and development;
- describe the stages of human growth and development;
- describe the characteristics of each stage of human growth and development;
- explain the principles of growth and development;
- discuss the educational implications of the principles of growth and development;
- explain the role of the teacher in the facilitation of growth and development during adolescence.

1.3 HUMAN DEVELOPMENT

Can you recall events from your early childhood, say the second or third year? You might have a few vague and blurred memories about your childhood. The experiences of that period form the basis of the type of person you are today. How human beings grow, change and adjust themselves to their environment is the focus of development and behaviour as also the concepts, principles and theories of growth of development.

The human being is never static. From conception to death he undergoes changes. There are progressive changes in response to environmental conditions. His body organs and psychological functions show the curves of capacity and achievement as well as slow erosion and decay. Cognitive abilities develop and then degenerate; basic metabolism reaches a peak and then declines, the endocrine function flourishes and then fades. There is a rise and fall of physical energy in terms of both the force and speed of action with age. In fact no organ or function of human beings has yet been found which is independent of age determinants. At the time of conception a child has genetic potentialities that are partly predictable and partly unpredictable. These genetic potentialities are determined by the nature of his biological inheritance. Still there is room for a tremendous range in the ways he uses the genetic potentialities, depending upon the environment which may help or hinder the development of those potentialities.

1.3.1 The Concept

The terms growth and development are often used interchangeably. Actually they are conceptually different. Neither growth nor development takes place all by itself. Growth refers to quantitative changes in size which include physical changes in height, weight, size, internal organs, etc. As an individual develops, old features like baby fat, hair and teeth, etc., disappear and new features like facial hair etc., are acquired. When maturity comes, the second set of teeth, primary and secondary sex characteristics, etc., appear. Similar changes occur in all aspects of the personality.

During infancy and childhood, the body steadily becomes larger, taller and heavier. To designate this change the term growth is used. Growth involves changes in body proportions as well as in overall stature and weight. The term growth thus indicates an increase in bodily dimensions. But the rate of growth differs from one part of the body to the other.

Development, by contrast, refers to qualitative changes taking place simultaneously with quantitative changes of growth. It may be defined as a progressive series of orderly, coherent changes. The term **progressive** signifies that changes are directional, that they lead forward rather than backward. **Orderly** and **coherent** suggest that there is a definite relationship between the changes taking place and those that precede or will follow them. Development represents changes in an organism from its origin to its death, but more particularly the progressive changes which take place from origin to maturity.

Thus, development may be explained as the series of overall changes in an individual due to the emergence of modified structures and functions that are the outcome of the interactions and exchanges between the organism and its environment.

Check Your Progress 1

Notes : a) Give your answer as instructed in each question.

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

i) Indicate 'G' for 'growth' and 'D' for 'development' for each of the following statements.

- a) A six month old baby shows signs of teething.
- b) A three month old baby begins to turn over and lie on its stomach.
- c) An infant begins to focus its eyes on an object dangling before it.
- d) A thirteen year old boy begins to have hair on his face.

ii) Write 'T' for 'true' and 'F' for 'false' for the following statements.

- a) A child talking full sentences is part of development.
- b) The difference in height between two children is due to the different rates of their development.

iii) Observe two children of the same sex who are at least five years different in age. Note five points of growth and five points of development for each of them. Discuss your answer with your academic counsellor.

.....

.....

.....

.....

.....

.....

.....

.....

1.3.2 Need and Importance of Studying Principles of Growth and Development

A knowledge of development patterns, what these are like and what causes variations in the development of children, is essential for both scientific and practical reasons. A knowledge of the pattern of human development, will help you know, for example, what to expect of children. It will also help you know approximately at what age behavioural changes take place, and when these patterns are generally replaced by more mature patterns. This is significant since, if too much is expected from children, they develop a feeling of inadequacy. On the other hand if too little is expected of them, they do not have an incentive to realise their potential.

Knowing exactly what to expect from children enables development psychologists, teachers and parents to set guidelines in the form of height-weight scales, age-weight scales, age-height scales, mental age scales, and social or emotional development scales. Deviations from normal development might be investigated in causal terms and appropriate intervention might be planned to treat those who vary considerably in personal, social and emotional adjustment or development.

A knowledge of development patterns helps teachers and parents guide the child's learning properly. A child must be helped to acquire skills of walking when he is of an age appropriate for this skill. Not providing learning opportunities at the appropriate time would delay the normal development of the child. In social development children are expected to adjust socially to their age-mates. If they are deprived of the necessary learning opportunity, they will not be ready to acquire the necessary skills characteristic of later childhood. When the development pattern is normal, one period prepares children for, and leads them effectively into, the next.

A knowledge of development patterns helps teachers and parents prepare the child psychologically for the physical and behavioural changes that would occur as they grow up. In fact, in this matter, the role of the school is crucial.

1.4 STAGES OF DEVELOPMENT

Any development process proceeds through some stages and each development stage differs from the other. Each stage of development has its characteristics. Psychologists, for the sake of convenience, have separated human life span into stages or periods and identified specific changes that may be expected during each stage. The transition from one stage to the next is gradual rather than sudden. The age groups assigned to each stage of the development are general as shown in Table 1.0.

Table 1.0 : Stages of Development

Age groups	Stage of development	Schooling stage
Birth to 2 years	Infancy	
2 years to 6 years	Early childhood	Pre-primary
6 years to 12 years	Later childhood	Primary
12 years to 18 years	Adolescence	Secondary and senior secondary
18 years to 40 years	Young adulthood	
40 years to 65 years	Mature adulthood	
over 65 years	Aged adulthood	

Each stage of development is characterised by a set of unique, coherent and distinguishing features.

Each period in life has its own problems of adjustment. Throughout the life span people develop techniques of handling each of their difficulties. Some of these techniques are suitable and others are not. Similarly, a method may be suitable for one age period and not for another.

The focus should be on stressing continuity, no sudden changes, no abrupt reversibility, development being an ongoing process, etc.

1.4.1 Infancy

Development is an ongoing process. It starts from the birth of the child and goes up to death. At birth, the proportions of the body are very different from those of the adult. Infants, during the first two weeks, are called **neonates**. They usually have wrinkled, blotchy red skin and a large head. They sleep for about 18 to 22 hours a day, wake up when hungry and sleep again as soon as they are fed. Crying neonates can be made comfortable with humming in low tones and rocking gently. Within a few days they begin recognising their mother's voice. They develop a relationship with parents. As the neonates move towards infancy, their need for affection develops. Accepted and loved babies develop a sense of trust too. They investigate their environment. The ninth and tenth months see jealousy aroused in the baby and between the tenth and twelfth months anger, love, sympathy and friendliness are distinguishable. From three months onwards they start babbling.

By the sixth month the slow and awkward grasping of early months gives way to well-coordinated movements.

The baby begins centering its attention on its own body. By the age of nine months a normal baby can creep. When they begin to crawl their curiosity becomes heightened.

Motor ability develops from the head down to the toes. The neonate's head is closer to eventual adult size than is the rest of the body. Also, the infant has more motor control of the head than of the muscles lower down the body. The progression of motor control follows this pattern first the head, then shoulders, arms and abdomen and finally the legs and feet. The growth and motor ability develop from the central axis of the body outwards. Trunk and shoulder

movements occur earlier than separate arm movements. Control over the hands and fingers comes last. The baby's first actions are global and undifferentiated. Slowly, the infant's ability to make specific responses emerges. Refined activity of the fingers and thumb usually doesn't occur until the baby is about a year old. Motor development is thus heavily influenced by biological maturity. Practice is certainly necessary for full development of the biological potential. In activities like walking, early practice is a key ingredient in maintenance and further development.

Newborn babies have been shown to be capable of discriminating between sweet and sour tastes. Taste is the most highly developed of all the senses at birth. A response to different smells has been observed within two hours of birth. Some babies respond to sound almost immediately after birth, whereas others may take a few days to gain this sense. This difference is a result of the time it may take for the amniotic fluid to drain out the newborn's hearing mechanism. However, neonates not only show the ability to respond to sound, but can even discriminate among certain sounds. Even when three days old, neonates show a marked preference for the mother's voice over the voices of others. Vision develops more slowly than many of the other senses. Responses to light and darkness are functional. Within two days of birth and by the time they are ten days old infants can follow moving objects with their eyes. Neonates can focus their eyes to a distance of eight to ten inches. The nursing newborn can certainly see the mother's face. By six months of age infants can discriminate between colours, between such shapes as circles and triangles and between the faces of parents and strangers. Some infants as young as one month old can distinguish between familiar and unfamiliar faces. Six-month-old infants have the ability to perceive depth and thus to avoid situations in which they might fall. An innate link between the visual and motor systems tends to emerge when the infant is about six months of age.

By about one year of age, babies can associate the sounds they make with specific objects and thus they begin to utter their first words such as dada, mama or bye-bye. The baby at 12 months is able to produce approximately 30 to 50 words and by 18 months is typically producing at least 400 words.

During the first two years babies play alone. They explore their surroundings, handle toys and start uttering some word combinations. From birth, infants demonstrate their uniqueness and their variability. They have differences in their personalities and temperament. However, the basis of newborn individuality is not entirely understood. Researchers agree generally that babies have different personality styles and these differences increase over the first few months of life. Parents have a profound influence in shaping their children's personality.

The child's development of manual skills proceeds through a series of orderly stages from the centre of the body towards the periphery. On the whole large-muscle control precedes fine-muscle control. Right or left-handedness develops gradually rather than appearing in an immediate manner. Over the first year of life infants typically undergo a patterned sequence of changes in their method of focusing on or organising visual events.

Check Your Progress 2

Notes : a) Tick mark (✓) the right answer.

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

i) What is a neonate?

- a) A newborn baby
- b) An irritable baby
- c) An unloved baby.
- d) An abnormal baby.

ii) What are the main characteristics of a baby under the age of two or three years?

.....

.....

.....

1.4.2 Early Childhood

Early childhood is generally referred to as the preschool period. During the period between two and six years, children enlarge the scope of their behaviour. They refine their previously learned skills and evolve new ones for relating themselves with other people. Thus the child progressively develops as a social being in his own right.

By the time a child is three years old, positive emotions like love and affection are shown. Mimicking social practices while playing games are also displayed. Their love for dolls and stuffed animals and showering affection on them is common. Their emotions get an outlet through play. Their need for socialisation grows.

In the pre-school period mental/intellectual development is characterised by the rapid expansion of cognitive abilities. Children become more curious and eager to seek information, keep it in order and use it. Whereas sensory motor processes largely dominate development during infancy, a significant transition occurs (after two years of age) towards more abstract processes of reasoning, drawing inferences and problem-solving. By the time children are six years old they have developed a set of cognitive skills.

Language development takes place during this period. Language development begins with howling, babbling and iteration. According to Piaget, language emerges only at the end of the sensory motor period of intellectual development. Chomsky believes that the language acquisition device is an inborn mental structure that enables children to induce grammatical rules and to form their own language from those rules. The inborn language acquisition device directs the children's ability to learn.

A major development task for a child during the first six years of life is to acquire a gender identification. Besides biological factors, social factors also influence the gender behaviour of children. The environment is the most powerful factor in shaping the gender identity among children. The cognitive development theory claims that children first come to categorise themselves as male or female and then attempt to acquire those patterns of behaviour that fit their gender category.

1.4.3 Later Childhood

During this period (6-12 years of age), physical growth is initially slow. There is vast intellectual, moral and social development. Around seven years of age major advances in intellectual development take place. During the later childhood period, the memory and the problem-solving ability improves and children become aware of their achievements. They become capable of comparing themselves with others with respect to intellectual, athletic and social skills.

The generally select playmates of their own sex and play together in groups. This period is often referred to as gangage. By the time the children reach puberty, they restrict their friendship to a few friends or one or two close companions.

They develop an understanding of the meaning of rules. Their moral development takes place as they accept the rules and standards of their friends and teachers.

This is the primary school stage. An important feature of this stage is the children's ability to learn about themselves and their environment. They develop their intellectual capabilities through information processing. Piaget calls it the **period of concrete operations**. He refers to it as concrete because children are bound by immediate physical reality—they develop the power to reason simultaneously by the whole and by the part at this stage. Children acquire the ability to order objects in a series according to some abstract dimension, such as size, weight, brightness or smell.

The primary school years are a time of rapid growth in children's knowledge of the social world and of the requirements for social interaction. They assess the status of the people they encounter from their behaviour (walking, eating, reading, playing), their emotional state (happy, sad, angry), their roles (teacher, parents) and their social context (religious place, school, home). In other words, children form a perception of and about people. They describe people largely in terms of external, readily available characteristics.

Children continue to grow in the strength, speed and coordination needed for motor skills. They climb trees, walls, etc. They develop precision in athletic ability. Being active and participating

in games helps them develop a concept of themselves. They get feedback regarding their desirability, worth and status from other people.

The function and role of schools become important for children's growth and development : physical, intellectual and motor. Schools teach specific cognitive skills, primarily the 3 Rs. and general skills associated with effective participation in the classroom setting.

Peer group interaction plays an important role in shaping the children's personality. At this stage, they enter the school context peer group interaction. They compare themselves and play dominant or submissive roles in the group.

1.4.4 Adolescence

The period of transition from childhood to adulthood is called adolescence. Adolescence is very crucial stage of development. All types of changes : biological, physical, social, cognitive, etc., take place during the adolescence stage. The major changes that take place at this stage of development are discussed below.

Physical development : The physical changes an adolescent undergoes are as follows :

Growth spurt : During the early adolescent years, most children experience the adolescent growth spurt, a rapid increase in height and weight. Usually, this spurt occurs in girls two years earlier than in boys. The spurt usually lasts about two years and during this time girls gain 6 to 7 inches and boys 8 to 9 inches in height. By the age of seventeen in girls and eighteen in boys, the majority of them have reached 98 per cent of their final height.

Puberty : During adolescence changes in growth and development are truly revolutionary. After a life time of inferiority, they suddenly catch up with adults in physical size and strength. Accompanying these changes is the rapid development of the reproductive organs that signals sexual maturity. Sexual and reproductive maturity becomes evident at this stage of development.

Adolescents are often extremely sensitive and perceptive about their own physical appearance and that of their friends. The discrepancies between their less than perfect self-images and the glossy ideals that they are supposed to emulate can be a real source of anxiety.

Sexual identity and relationships: Directly related to biological changes is sexual identity. This includes the expression of sexual needs and feelings and the acceptance or rejection of sex roles. With the attainment of puberty and adolescence, all the biological changes of physical maturity bring a new interest in sexuality. This accentuates the problem of integrating the sexual drive with other aspects of the personality. Early adolescents don't usually have to deal with problems of sexual intimacy at a very sophisticated level. Early adolescents need to be liked and have a sense of self-esteem. They feel strong pressures to conform to the peer group.

In early adolescence, most relationships with the opposite sex take place in groups. It is known as the trial period for adolescents to collect the ideas and experiences with which to form the basic attitudes about sex roles and sexual behaviour. They can examine their own and others stereotyped images of the opposite sex. Adolescents tend to select friends who are from a similar social class, interests, moral values and social maturity.

Identity is composed of the weight an individual gives to the question "who am I?" Identity is a person's sense of placement within the world, the meaning that one attaches to oneself in the broader context of life. In their everyday lives individuals interact with one another not so much on the basis of what they actually are as of what conceptions they have of themselves and of others. Accordingly, their identity leaves its signature on everything they do. Identities are not fixed. They undergo continual shaping and reshaping over the course of the life span. Adolescence poses identity tasks that seem play an important part in successful transition to adulthood.

Cognitive development : Important cognitive developments occur during this time. An expansion in capacity and style of thought broadens adolescents awareness, imagination, judgement and insight. These enhanced abilities also lead to a rapid accumulation of knowledge that opens up a range of issues and problems that can complicate and enrich the adolescent's life.

Adolescents also show an increasing ability to plan and think ahead. Cognitive skills continue

to expand throughout the adolescence period. The development of thinking ability also takes place during adolescence. Adolescents learn to examine objects, events or phenomena and consciously develop their thinking ability. For example, they may silently warn themselves not to jump to conclusions without convincing proof, they also become extremely introspective and self-absorbed. At the same time, they begin to challenge everything, to reject old boundaries and categories. In so doing, they question old attitudes and become more creative and thinkers.

Check Your Progress 3

- Notes : a) Write your answer in the space given below.
b) Compare your answer with the one given at the end of the unit.

List the main points of physical development in adolescents.

.....

.....

.....

.....

.....

.....

1.4.5 Young Adulthood

There is no fixed age when adolescence is complete. The responsibilities of adulthood include important decisions like choosing a career, a life partner, etc. Young adulthood begins with setting goals and aspirations.

Sheehy (1976) and Gould (1975) observe that individuals in their twenties are ambitious and striving. Sheehy labels this stage as "the trying twenties". They describe the early thirties as the time of re-assessing. Childless couples begin to think of raising children. Women who have been at home so far may begin a career. By the late thirties adults settle down and become more satisfied. Sheehy labels this contentment as rooting. The early twenties are marked by immaturities but by the completion of young adulthood a mature person is expected to emerge.

1.4.6 Mature Adulthood

After settling down in thirties and having lived through with rooting phase, the individual starts feeling sense of uprooting and dissatisfaction during the forties. A physical decline in the form of wrinkles, thickening waistlines, and greying and thinning hair start appearing. The changes are often termed middle life transition, middle-age revolt, mid-career crisis or middle-age slump. These terms point to the loss of youth and the coming of old age. In women hormonal changes of menopause (ending of menstruation) generate anxiety and depression.

1.4.7 Aged Adulthood

Aging is a process which causes loss of vitality. Aged adults are more concerned about their health and death. Their visit to doctors is more frequent.

Retirement has the worst impact on aged adults. They gradually lose their sense of meaningfulness in life. Some develop interests in social service and spend their time in financial planning, reading, traveling, visiting religious places and enjoying nature.

Check Your Progress 4

- Notes : a) Write your answers in the space given below.
b) Compare your answers with those given at the end of the unit.
- i) During which stage do most children learn to accept the rules and standards of morality?

.....

.....

.....

ii) Identify three needs of early childhood.

.....

.....

.....

iii) Outline three common problems encountered during young adulthood.

.....

.....

.....

.....

1.5 PRINCIPLES OF DEVELOPMENT

Human development involves change. This change occurs at various stages of development and the development pattern at each stage has predictable characteristics. You might have observed that development is a product of maturity and learning. Maturity is more or less automatic, unfolding biological potential. It is an irreversible sequence and entails biological changes. Such changes are relatively independent of environmental factors as long as environmental factors remain normal. There is a more or less permanent change in human behaviour from the individual's experience in the environment. Learning occurs across the entire life span. It differs from maturity. However, learning depends on the process of maturing i.e. individual readiness (mental and physical) for certain activities.

As human development is based on certain principles, we shall discuss them in this section.

1.5.1 Continuity

Development is a continuous process from conception to death. In the early years of life, development consists of changes that lead the child to maturity not only of body size and functioning, but also of behaviour. Even after maturity has been attained, development does not end. Changes continue which lead to the period of life known as senescence or old age. These changes continue until death ends the life cycle.

Development depends on the growth and maturity of individuals who interact with the environment. Indeed many studies have shown that development demonstrates some stage—like properties and some consistency across domains : cognitive, affective and psychomotor.

1.5.2 Sequentiality

Most psychologists agree that development is sequential or orderly. Every species, whether animal or human, follows a pattern of development peculiar to it. This pattern in general is the same for all individuals. In prenatal development there is a genetic sequence, appearing at fixed intervals with certain characteristics.

Social and behavioural scientists increasingly have come to see development as a relationship between organism and environment in a transaction or collaboration. Individuals work with and affect their environment, and in turn the environment works with and affects them.

The directional sequence of development during both prenatal and postnatal stages may either be (i) from head to foot, or (ii) from the central axis to the extremities of the body.

All children follow a development pattern with one stage leading to the next. Infants stand before they walk; draw circles before they make squares. Even though development is continuous, there is evidence that at different ages certain characteristics stand out more conspicuously than others.

Since development is continuous, what happens at one stage influences the following stages.

1.5.3 Generality to Specificity

Development proceeds from general to specific. In all areas of development, general activity always precedes specific activity. For example, the foetus moves its whole body but is

incapable of making specific responses. In early postnatal life, infants wave their arms randomly. They can make such specific responses as reaching out for an object near them. In language, from genetic sounds emerge words and then specific sentences with meaning.

With respect to emotional behaviour infants approach strange and unusual objects with some sort of a general fear response. Later, their fears become more specific and elicit different kinds of behaviour, such as crying, turning away and hiding or pretending to be not afraid.

1.5.4 Differentiality

The tempo of development is not even. Individuals differ in the rate of growth and development. Boys and girls have different development rates. Each part of the body has its own particular rate of growth. Development does not occur at an even pace. There are periods of great intensity and equilibrium and there are periods of imbalance. Development achieves a plateau and this may occur at any level or between levels. Developmental changes do not always go forward in a straight line. While the development of different physical and mental traits is continuous, it is never uniform. Since the body has to attain its adult proportions, inequalities in rates occur. The feet, hands and nose, for example, reach maximum development early in adolescence, while the lower part of the face and the shoulders develop more slowly. Mental abilities like verbal, numerical, spatial, etc., develop at different ages. Creative imagination develops rapidly in childhood and reaches its peak in early adolescence. Reasoning develops slowly. Rote memory and memory for concrete objects and facts develop more quickly than memory for the abstract. The point that you should remember here is that all these changes in individuals are not uniform. These changes occur at different rates.

1.6 ROLE OF THE TEACHER IN FACILITATING GROWTH AND DEVELOPMENT

What we know about the child is **vast and** impressive. However, what we do not know is even more vast and **overwhelming**. Every new insight opens up new questions. Therefore, you need to **update** your knowledge of the problems of children in the context of the media explosion, of economic strivings and resultant social, cultural and value changes so that you are able to make a reliable diagnosis and apply the knowledge of child psychology to better their adjustment with themselves and with the world around them.

You, as a teacher, should know what to expect from the child (student), and what he needs physically, socially and emotionally. You need not know your student only in a formal teacher-taught relationship when he (the student) is found to be a member of a drug sub-culture group or is heading in a socially undesirable direction. The routine teacher-taught relationship would not benefit him unless he is dealt with empathatically as a social being, as an individual self, and as a biological organism.

You should accept and make your students accept the reality of physical and biological changes so that the transition takes a smooth course without causing any psychological disadvantage. You need to create such challenging conditions which may lead to the effective coordination of physical, mental and other functions in order to ensure adequate adjustment to probable life situations. Yet another task that you should ensure is to secure effective and desirable responses, and prevent or eliminate ineffective or undesirable ones. One way is to arrange conditions in a way that make desirable responses satisfying and not annoying. Punishment should be administered judiciously lest it generates negative reactions.

Positive training in self-direction and self-control should be given to students. Some of the following points can be kept in mind while guiding them :

- Control and guidance must come from the student himself under the teacher's supervision.
- Student should not be punished lest it interferes with his developing leadership.
- Harsh, strict and unsympathetic control, and prescription of every detail of conduct leaving no place for self-control and self-direction are not conducive to students mental health and adjustment to life's events.
- Proper guidance, rational shifts of treatment, and principles of autonomy should be judiciously applied to ensure smooth passage through the turbulent period of students.

It is around the adolescence stage that students reach the higher levels of their school education. You need to receive adequate knowledge and skills with due preparedness in order to handle their emotional and social needs. You need to appreciate the fact that students at this stage are prone to revolt against established norms, rules, and authority. You should keep yourself ready to provide explanations and rationale for the beliefs and values which your students would question. Students at this time need proper guidance to decide on the right course of action. They need supportive judgments to do things which provide them self-confidence and self-assurance.

The range of individual differences in mental ability among adolescents is wide. You need to use some plan of classification to secure homogeneous groups in respect of significant abilities and achievements so that curricular and instructional needs can be suitably met.

Studies have indicated that in certain tasks a student's performance would improve when others (teachers) are around. This phenomenon is called **social facilitation**. However, this is not a universal phenomenon. Still other studies have shown that when a student is first trying to learn something new, the presence of others is detrimental. In such a situation the teacher has to assess the situation (considering the class as a social unit) and the personality traits of his students and accordingly he should facilitate their growth and development.

1.7 LET US SUM UP

In this unit you have studied the concept of human growth and development. The stages of development and the characteristics of each stage have also been discussed. The principles of development, their importance and need to study them scientifically have been discussed. As you have seen, adolescence is a period of transition between childhood and adulthood. Accompanying it are a number of problems. During this period, adolescents are considered neither as children nor as adults. Their status remains ambiguous. They are prone to rebel against authority. What bearing these characteristics of adolescents have upon the instructional process and for dealing with their particular problems have also been discussed. What you, as a teacher, can do to attend to these problems and how you can help the development of a balanced personality of your students have also been dealt with in order to create a better understanding of students' needs and problems.

1.8 UNIT-END EXERCISES

1. Trace those events from your own childhood and adolescence stages that reflect the characteristics of these periods.
2. "Adolescence is a period of storm and stress". Discuss with convincing arguments.
3. Teachers can do a lot to help adolescents develop a balanced personality. How? Discuss your experiences in this regard.

1.9 SUGGESTED READINGS

Craig J. Grace (1983) : *Human Development*, Prentice Hall, INC, Englewood Cliffs, New Jersey.

Levinson, D.J., Darrow, C.N., Klein, E.B., Levinson, M.H. & McKee, B. (1978) : *The Seasons of a Man's Life*, New York, Knopf.

Sanden Vander W. James (1989) : *Human Development*, Refred A Knopf, INC. New York.

Sheehy, G. (1974) : *Passages : Predictable Crisis of Adult Life*, New York, Dutton.

Sprinthall, C., Richard and Sprinthall A. Norman (1990) : *Educational Psychology, A Developmental Approach*. McGraw Hill Publishing Company, New York.

Wolman, B.B. (Ed), (1982) : *Handbook of Developmental Psychology*, Prentice Hall : Englewood Cliffs, N.J.

1.10 ANSWERS TO CHECK YOUR PROGRESS

1.
 - i) Growth means quantitative changes in size which includes physical changes.
Development means a qualitative change at physical as well as mental levels.
 - ii) Points of comparison are
 - Age/time in the life span
 - Physical
 - Mental
 - Quantitative
 - Qualitative
2.
 - i) a
 - ii) Babies have some unique features such as
 - Weight : Approximately 2 kg
 - Appearance : Wrinkled and blotchy skin, large heads
 - Interaction with environment : Recognise their mother's voice, slow awkward grasping movement, crawling, uttering some combinations of words.
3. The characteristics of an adolescent are as follows :
 - Growth spurt : A rapid increase in height and weight.
 - Puberty : Rapid development of the reproductive organs that signals sexual maturity.
 - Body images and adjustment :
 - i) Critically appraising their body and self-image.
 - ii) Extremely sensitive and perceptive about their own physical appearance.
 - Identity : Adolescence poses identity tasks that seem to play an important part in a successful transition to adulthood.
4.
 - i) Later childhood.
 - Psychological development :
 - i) Independent behaviour, strong feelings of insecurity.
 - ii) Three main needs of early childhood are
 - Parental attention
 - Need for socialization
 - Displaying love and affection through games
 - iii) The common problems could be
 - heightened emotionality
 - revolt against authority
 - feelings of insecurity
 - identity crisis