

Concept of Growth and Development



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Paper- II (Child Development)

Unit – I

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Concept of Growth and Development

As we know all the individual is unique and all 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 developmental stage of life.

The human being is never static. From conception to death he undergoes changes. There are progressive changes in response to environment conditions, his body organs and psychological functions show the curves of capacity and achievement as well as slow erosion and decay.

Definition:

Growth:

Growth is the cellular multiplication. It is an indicator of increase in body dimensions like height and weight etc.

Growth is the process of physical maturation resulting an increase in size of the body and various organs. It occurs by multiplication of cells and an increase in intracellular substance.

Development:

Development is not limited to growing larger instead it consists of progressive series of changes towards the role of maturity.

Development is the process of functional and physiological maturation of the individual. It is progressive, increase in skill and capacity to function. It is related to maturation and myelination of the nervous system. It includes psychological, emotional and social changes.

Meaning and 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 body fat, hair and teeth, etc., disappear and new features like facial hair etc. are acquired.

Development, refers to *qualitative changes* taking place within individual. It may be defined as a progressive acquisition of various skills (abilities) such as, speaking, learning, expressing the feelings and relating with other people. Development represents changes in an organism from its origin to its death.

According to **Hurlock**, changes occur in organisms physical and functional behaviour, these changes which covers *physical, emotional, intellectual and social aspect* of human life have been roughly divided into 4 major classes:

1. Change in size
2. Change in proportion
3. Disappearance of old features
4. Acquisition of new features

All these types of changes have qualitative as well as quantitative aspects and hence generally go hand in hand together.

Stages of Growth and Development:

Any development process proceeds through some stages and each development stage differs from the other. Each stage of development has its own characteristic. Psychologists, for the sake of convenience, have separated human life span into various stages or periods and identified specific changes that may be expected during each stage. The transition from one stage to next stage is gradual rather than sudden.

The following table shows various stage of growth and development as per the age :

Stages	Period and appx. Age
Pre-natal	Conception to birth
Infancy	Birth to 2 years
Childhood	3 to 12 years
Adolescent	13 to 19 years
Adulthood	20 years and beyond

Pattern of Physical Growth During Various Developmental Stages:

The following table shows general pattern of physical growth during various stage of development which help us to know definite structural changes at each stage:

1. Increase in height and weight:

Age	Height (in cm)		Average weight (in kg)	
	Girls	Boys	Girls	Boys
Below 3 months	55.0	56.2	4.2	4.5
3 months	60.9	62.7	5.6	6.7
6 months	64.4	64.9	6.2	6.9
9 months	66.7	69.5	6.6	7.4
1 year	72.5	73.9	7.8	8.4
2 years	80.1	81.6	9.6	10.1
3 years	87.2	88.8	11.2	11.8
4 years	94.5	96.0	12.9	13.5
5 years	101.4	102.1	14.5	14.8
6 years	107.4	108.5	16.0	16.3
7 years	112.8	113.9	17.6	18.0
8 years	118.2	119.8	19.4	19.7
9 years	122.9	123.7	21.3	21.5
10 years	128.4	124.4	23.6	23.5
11 years	133.6	133.4	26.4	25.9
12 years	139.6	138.3	29.8	28.5
13 years	143.9	144.6	33.3	32.1
14 years	147.5	150.1	36.8	35.7
15 years	149.6	155.5	38.8	39.6
16 years	151.0	159.5	41.4	43.2
17 years	151.5	161.4	42.4	45.7
18 years	151.7	163.1	42.4	47.4
19 years	151.7	163.4	42.4	48.1

2. Change in body proportion:

Apart from size the child shows a marked change in body proportion of different parts of body at various developmental stage as shown in figure:

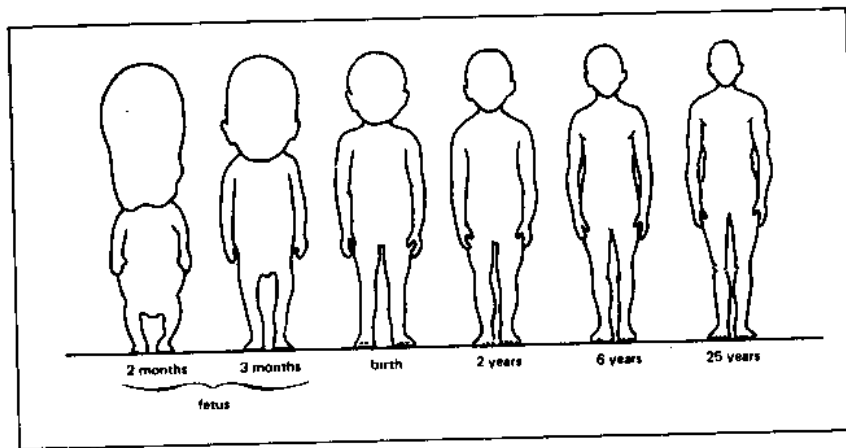


Figure 9. Changes in bodily proportions with age

3. Growth and development of internal organs:

- Digestive system
- Muscular system
- Nervous system
- Respiratory system
- Circulatory system
- Reproductive system
- Lymphatic system

Aspects of Growth and Development:

- Physical development
- Mental or intellectual development
- Social development
- Emotional development
- Moral or character development
- Language development

Difference between Growth and Development

Growth	Development
<ul style="list-style-type: none"> • It is <i>quantitative</i> process 	<ul style="list-style-type: none"> • It is <i>qualitative</i> process
<ul style="list-style-type: none"> • It can be measured completely 	<ul style="list-style-type: none"> • It can not be measured completely
<ul style="list-style-type: none"> • It is specific 	<ul style="list-style-type: none"> • It is general

<ul style="list-style-type: none"> • It is narrow 	<ul style="list-style-type: none"> • It is broad
<ul style="list-style-type: none"> • Growth may or may not bring development 	<ul style="list-style-type: none"> • Development is possible without growth
<ul style="list-style-type: none"> • It stops when attain maturity 	<ul style="list-style-type: none"> • It is a lifelong process ie from womb to tomb
<ul style="list-style-type: none"> • It is related to body organs 	<ul style="list-style-type: none"> • It is related to qualities of organs
<ul style="list-style-type: none"> • Growth is one of the parts of developmental process 	<ul style="list-style-type: none"> • It is wider and comprehensive terms and refers overall changes

Principles of Growth and Development:

1. Principles of continuity
2. Principles of individual differences
3. Principles s of integration
4. Principles of interrelation
5. Development proceeds from general to specific
6. Principles of interaction of heredity and environment
(**Development = Heredity x Environment**)
7. Principles of developmental directions (*Kuppuswami*)
 - **Cephalic-caudal law :**
Ex. Head to foot
 - **Proximodistal law :**
Ex. Centre to periphery
8. Principles of uniform pattern
9. Development is spiral not linear

Theories of Development:

To understand various aspects of development more comprehensively at various stages, following theories will play very important role:

1. Freud's psycho-sexual theory of development
2. Piaget's and Bruner's theory of cognitive development
3. Erikson's theory of psycho-social development
4. Piaget's and Kohlberg's theory of moral development
5. Vygotsky's socio-cultural theory of development
6. Theories of language development

Factors affecting growth and development:

1. Heredity
2. Intelligence
3. Food and nutrition
4. Fresh air and sunlight
5. Disease and injuries
6. Culture
7. Position in family

Educational implication of principles of Growth and Development:

- Knowledge of principles of growth and development tells us that there are wide individual differences among students with respect to their rate of growth and development. It helps in planning of course for their education and development.
- The principles help to know what to expect and when to expect from an individual child with respect to his physical, mental, social development etc. at different stage of development.
- It helps to locate the degree of abnormality in our students and to take likewise remedial steps.
- Principle of interrelation and interdependence helps us to aim for the harmonious growth and development of personality of child.
- The knowledge of uniformity of pattern makes it possible for the parents and teachers to plan ahead of time for the changes that will take place in their children.
- The knowledge of heredity and environment helps us to pay sufficient attention over the environmental conditions in the upbringing of the children.