Characteristics of Development

There are certain features which are characteristic of human development and which influence greatly the form it takes. It is impossible to evaluate these fairly in every respect so as to list them in the order of their importance. Nevertheless, an attempt will be made to list first those which seem to be most influential. The characteristics of development are as follows.

1: Development follows a pattern.

Every species, whether animal or human, follows a pattern of development peculiar to that species. The rate and the limit of development are similar for all members of the species. In the case of the human being, development is not of a haphazard, unorganized type. Rather, it occurs in an orderly, patterned fashion. Even the prenatal development is like that of other fetuses, in that there is a sequence with certain traits appearing at each month. The same is true of the postnatal development. Each stage is the outcome of the one preceding it and the perquisite of the one following it. The baby, for example cuts his molars before he cuts his incisors, can stand before he walks, and can draw a circle before he can draw a square.

In both prenatal and postnatal life, development follows a sequence. In the newborn infant, skin sensitivity comes in the upper most part of the body before it appears in the lower. Development also follows a pattern in motor functions. When the baby is placed in a prone position, he can lift his head by his neck before he can do so by lifting his chest or before he can sit up. He can control the muscles of his trunk those of his arms and legs, and those of the arms and legs before he can the muscles of his feet and hands.

2: Development proceeds from general to specific responses.

In all phases of development, whether motor or mental, the child's responses are of a general sort before they become specific. In both prenatal and postnatal development, general activity precedes specific activity. At no time and under no condition is the reverse the case. This is apparent first in muscular responses. The newborn infant moves his whole body at one time, instead of moving any one part of it. The baby waves his arms in general, random movements before he is capable of so specific a response as reaching. Likewise, his legs are used for random kicking before he can coordinate the leg muscles well enough to crawl, creep or walk.

The baby can see large objects before he can see small ones, because his eye movements are not coordinated enough at first to focus on small objects. The same pattern is seen in handedness. When the baby first reaches for an object, he not only uses both hands, but his legs and whole body are thrown into the response simultaneously. Around the sixth month, the reaching response is restricted to the two hands, and later, at approximately one year of age, to one hand. In learning a new task, such as dressing the whole body wiggles and is thrown into activity. With improvement in this skill, the activity is limited to the hands. Children do simpler things first and more complex ones later.

In other aspects of development, the same sequence is seen. The baby produces general, babbling sounds before he can say words. In building a vocabulary, he learns general words before specific. For example, he uses “toy” for all playthings before he learns to call each toy by its name. All dogs are “doggie” at first and then are designated as “Rowdy” “inky” or “Scottie”. Concept formation follows the same pattern. The baby first distinguishes living from inanimate objects, then human beings from animals, then different types of human beings as white, colored, American or Chinese. In emotional behavior, the baby first responds to strange or unusual objects with a general fear, which is the same in all situations later, his fears become more specific and are characterized by different types of behavior in different situations. All his emotional patterns develop from general state of excitement and quiescence as he grows older.

3: Development Is Continuous.

From a superficial study of the growth of one feature, such as height, it may seem that the individual grows by “fits of starts” rather than at a continuous rate. Likewise, the use of such terms as “babyhood” and “adolescence” suggests that there are definite periods when growth takes place and implies that at other times growth has ceased. This, however, is not the case. On the contrary, growth continues from the moment of conception until the individual reaches maturity. It takes place at a slow, regular pace rather than by leaps and bounds. The development of both physical and mental traits continues gradually until these traits reach their maximum growth during the period of late adolescence. The use of certain terms to designate growth stages has been accepted to stress the fact that a particular type of growth stages has been accepted to stress the fact that a particular type of growth is occurring at that particular time.

No traits, whether physical or mental, develop suddenly. On the contrary, there are all the product of a growth which started before birth several examples will illustrate this point. In physical growth, the appearance of the first teeth during the first year of life suggests that they developed suddenly. This, however, is not true. Teeth begin to develop as early the fifth fetal month, though they do not cut through the gums until about five months after birth. Speech does not come overnight, but is gradually evolved from the cries and other sounds made by the baby at birth.

Because development is continuous, what happens at one stage carries over and influences the following stages. For example, malnutrition in babyhood will produce physical and psychological damage which cannot later be entirely compensated for. Emotional tension caused by unfavorable environmental conditions in the child’s home will leave its mark on the developing personality of the child. Unhealthy attitudes about himself and his relationship to others, established during the early years of life, are rarely eliminated completely. Their influence on the individual’s outlook on life is seen even in maturity and old age.

4: Individual differences in rate of development remain constant.

The common belief that the baby who is physically or mentally below average will "catch up" to the average has not been substantiated by scientific evidence. On the contrary, there is plenty of evidence to show that the rate of growth is consistent. Those who developed rapidly at first will continue to do so, while those whose development was slow will continue to develop slowly. Curves of height have shown that children who are tall at one age are tall at other ages, while those who are short remain short. Weight and height measurements at half-yearly intervals for boys and girls up to thirteen years who had been grouped according to birth weight revealed that the direction of difference noted at birth tended to birth tended to be maintained during childhood. In the prepuberty growth spurt, girls who grow much in one year grow much during the whole of that period while girls who grow little in one year grow little during the entire period.

In behavioral patterns, the same principle holds true. Individual movements, whether of simple or advanced patterns, have been found to remain remarkably constant over a period of time. Growth curves for mental age for bright, average, and dull children have shown a constancy that is found in curves of physical growth. Accelerated mental growth continues to be accelerated study of men of genius showed them to be precocious during childhood. Children who are mentally deficient do not, except in unusual cases, "Catch up" to the normal child. What is more likely to happen is that they will become more and more retarded as they grow older.

5: Development Occurs at Different Rates for Different Parts of the Body.

Not all parts of the body grow at the same rate, nor do all aspects of mental growth proceed equally. At birth, the different parts of the body very in relation to one another. If the body is to attain adult proportions inequalities growth must take place. The different phases of mental and physical growth occur at their own individual rates and reach maturity at different times. In some areas of the body the growth may be rapid while in others, the growth may be slow or even interrupted by intermittent pauses. Thus, the pattern of relative size of the organs of the body changes from time to time.

The brain attains its mature size around the age of six to eight years, but gains much in organization after that. The feet, hands, and nose reach their maximum development early in the adolescent years. This accounts, in part, for the awkwardness, clumsiness, and self-consciousness characteristic of these years. The heart, liver, and digestive system grow much during adolescence.

Measurements of different intellectual capacities have revealed that they develop at different rates and reach maturity at different ages. Creative imagination develops rapidly in childhood and seems to reach its peak during youth. Reasoning, on the other hand, proceed at a relatively slow rate of development. Rote memory and memory for concrete objects and facts develop

more quickly than memory for abstract theoretical material. General intelligence for the average individual reaches its peak around the age of fourteen years.

There may be any combination of acceleration and retardation in the development of height, weight, and intelligence, maturation of the emotional processes, or sexual maturation. This irregularity of the rates of development of the various aspects of structure, function, social adaptation, and intelligence has many psychosomatic implications. A bright child, for example, may be out of step with his contemporaries in his interests and activities but be socially unacceptable to an older group. This, in turn may affect his social adjustment, his sense of personal adequacy and the development of drives and motivation.

6: Most Traits Are Correlated in Development.

The popular assumption that compensation is a general rule in the development of a child is not borne only by experimental studies. It is not true that the child who is above average in one trait will be below in others, and vice versa, as a means of equalizing his capacities. As pointed out "The products of growth are envisaged as a fabric in which threads and designs are visible".

The rate of development for different parts of the body differ, but they are compensatory in that above-average growth in height during one period may be accompanied by below average growth in weight but in subsequent periods the reverse will be true .

The child whose intellectual development is above average is generally above average in size sociability, and special aptitudes. The child whose intellectual development on the other hand is blow average does not compensate for this by having very superior health, highly developed special aptitudes, great sociability or superior physical structure. Mental defectives tend to be smaller in stature than the normal child. Idiots are the smallest of the feeble-minded group similarly high grade inelegance has been found to correlate highly with early sexual maturing, and low grade intelligence with late sexual maturing, though there are climatic racial, and other determinates that have to be kept in mind.

7: Development is predictable.

Because the rate of development for each child is fairly constant, the immensely important consequence is that is possible for us to predict at an early age the range within which the mature development of the child is likely to fall. X-rays of bones of the wrist of a child will tell approximately what his ultimate size will be. This may prove to be very important, especially in case where either the parent or the child is concerned about his present size.

8: Each development phase has traits, characteristics of it.

At each age some traits develop more rapidly and more conspicuously than other. According to Feldman "Human life proceeds by stages. The life periods of the human individual are no less real and significant than the geological ages of the earth or the evolutionary stages of life. Each stage is distinguished by a dominant feature a leading characteristic which gives the period its coherence, its unity and its uniqueness. Up to the age of two years, for example, the baby is concentrating on investigating his environment, gaining control over his body and learning to speak from the ages of 3-6 years, his development is concentrated on making him a more social creature.

Furthermore, in the development pattern, there are phases which are characterized by "equilibrium" and others characterized by "disequilibrium" in the former, the child is making good adjustments and easy to live with. In the latter, by contrast his adjustment appears to be disrupted by conditions within himself or by environmental factors and as a result, he is difficult to live with. At this time, there are tensions, indecisions, insecurities and similar behavioural problems. In a period of disequilibrium the child's behavior may appear to be "problem behavior". Such behavior difficulties are not individual aberrations but are characteristics of his age level and hence predictable.

Genetic studies have revealed the predictable ages of disequilibrium as well as those of equilibrium, when the child is "in focus". In the early years of life for example the periods of disequilibrium have been found to occur at the age of 15 months, 21 months , 2-1/2 years, 3-1/2 years and again just before puberty change make their appearance, between the ages 10-12 years. Between these periods of disequilibrium are periods of equilibrium when the child is 'in focus' and when his behavior shows signs of better adjustment. There are, of course, individual differences in the actual ages at which these periods of equilibrium and disequilibrium appear.

9: Many forms of so-called "problem behavior" is normal behavior of the age in which they occur.

Each developmental age has certain undesirable forms of behavior which are normally found at that age and are outgrown as the child passes on the next stage of development. A detailed study of the characteristic behavior of three and half year olds has revealed the following forms of behavior that are characteristics of a state of disequilibrium; physical incoordinations; fears of falling and of high places; excessive tensional outlets, such as eye blinking and nail biting; stuttering "psychological deafness; visual difficulties; emotional insecurity; problems in adult child relations, such as demanding attention and shyness; easily hurt feelings, emotional extremes and marked expressions of affections. At this time, there is a developmental spurt, especially in boys who have been slow in starting. The behavior then becomes well organized, well grounded, and up to age expectations which, characterizes beginning of a period of equilibrium.

By contrast to this difficult behavior is the five year old who is “in focus “. At that age he is cooperative, friendly, sympathetic, affectionate, and helpful. This period of equilibrium is followed by a period of disequilibrium which is a ‘trying age’ when the child is difficult, aggressive, explosive, demanding, fresh, nasty, insulting, argumentative, bratty, impudent and rude. After the child enters school, his behavior generally improves and he remains in equilibrium until the physical changes accompanying puberty begin.

Lack of understanding of the normal behavior of children at different ages is responsible for much of the parent child friction. Even teachers are often annoyed by behavior which is perfectly normal for the child’s level of development.

10: Every Individual Normally Passes through Each Major Stage of Development.

While it is true that time required to complete the development characteristic of each stage differs from one individual to another, nevertheless, execpt in unusual cases, the development will be completed at approximately twenty one years of age Inability to pass through all the developmental stages is correlated frequently with low grade intelligence. Poor health, unfavorable environment, lack of incentive to develop and other factors may also retard the normal rate of development, but their influence in only temporary.

THE FACTORS INFLUENCING DEVELOPMENT

The rate and pattern of development can be changed by conditions within and without our body. Physical growth depends partly upon food and general health conditions and partly upon such environmental factors such as sunlight, fresh air and climatic conditions. Personality patterns may be influenced more by attitudes than by social relationships, or the reverse may be true.

As has been hinted, development is not one to one factor alone but too many, each related to the other and all independent. The relative importance of the different factors has never been determined, though it is evident that some play a more important role than others. These factors, as nearly as possible in order of their importance, are as follows:-

1. **INTELLIGENCE:**

Of all the factors influencing the development of the child, intelligence seems to be the most important. High grade intelligence is associated with a speeding up of development, while low grade intelligence is associated with retardation. Several examples will be sufficient to illustrate this point. The age or first walking and talking has been carefully studied in relation to the child's intelligence, and it has been found that, in the case of walking, very bright children first walk at 13 months, average children at 14 months and morons at 22 months, and idiots at 30 months. In talking, very bright children talk first at 11 months, average children at 16 months. Morons at 34 months and idiots at 51 months, and idiots at 51 months.

2. **SEX:**

There is ample evidence available at the present time to show that sex plays an important role in physical and mental development of the child. Differences in the rate of physical growth are especially apparent. At birth, boys are slightly larger than girls, but girls grow more rapidly and mature sooner than boys. Girls, on the average, mature sexually a year before boys, and at this time they are larger than boys. This is definitely apparent at the pre-puberty age, from nine to twelve years. Girls also attain their full size sooner than boys. In mental growth, as measured by intelligence tests, there is a slight difference in favor of girls. Girls develop mentally earlier than boys and reach their mental maturity slightly sooner.

3. **GLANDS OF INTERNAL SECRETION:**

In recent years, studies in the field of endocrinology have shown importance of the role played by certain of glands secretion in the physical and mental development of the child. These glands affect the development in both the prenatal and postnatal stages of growth. A few of those that are definitely known to influence growth will be used as illustrations.

The level of calcium in the blood is regulated by parathyroid glands, located in the throat, near the thyroids. Deficiency of these glands results in defective bone growth and hyper excitability of the muscles. Thyroxin, produced by thyroid glands, is essential to physical and mental growth. Deficiency of thyroid activity, during the growth years, stunts the physical and mental development of the child, producing the "cretin" or deformed idiot.

A too active thymus gland (located in the chest), or a too active pineal gland (located in the base of the brain), will retard normal development and keep the child physically and mentally childish too long. Deficiency in the activity of the sex glands delays the onset of puberty, while hyperactivity brings about a precocious sexual development.

4. NUTRITION:

At every age, but especially in the early years of life, feeding is of great importance to the normal development of the child. It is not only the amount of food eaten that is important' the vitamin content is as important as, if not more important than the quantity. Defective teeth, rickets, skin diseases, and innumerable other disturbances can be traced directly to incorrect diet during babyhood and early childhood. The larger stature of the children of today, as well as that of children of the higher economic classes, is due in part to improved feeding in the early years of life.

5. FRESH AIR AND SUNLIGHT:

The size, general health condition, and maturing age of the child are influenced by the amount of fresh air and sunlight the child gets, especially during the early years of life. This is very evident when comparisons are made between children from good and poor environments. Whether they affect the mental development as well as the physical is yet debatable.

6. INJURIES AND DISEASES:

Any injury to the child, such as head injuries, toxic poisons from diseases and drugs, bacterial poisons from diseased tonsils, adenoids, or typhoid fever, will retard to a certain extent the child's development. Except when these conditions are very pronounced the effect is limited almost exclusively to the physical development.

7. RACE:

Racial difference is development show that children of the Mediterranean races develop physically sooner than do the children of the countries of northern Europe. Likewise, children of the Negro and Indian races are slower in their development than are the children of the white and yellow races. Comparisons of whit and Negro babies during the first year of life revealed that the developmental level achieved by the Negro babies was about80 percent as mature that of the white babies. When environmental factors are taken into consideration by comparing white and Negro babies of approximately equal socioeconomic status, it was found that by the third half year, the Negroes began to be slightly lower in their developmental trend than the whites.

8. Culture:

In an attempt to determine what influence culture has on the young child's development, Dennis studied a group of Hopi Indian babies. He found that, in spite of the differences in their culture and that of typical American babies, the Hopi babies showed the same social and motor responses as did the American babies. Positive social responses were found at the same age in both cultures. Shyness and fear of strangers appeared at the same age level. Other reactions were likewise found to be entirely comparable.

When comparison were made with the material reported in 40 biographies of white babies, it was found that every response of the white babies was observed among the Indians and that no response was observed among the Indians that was not commonly noted among the white babies. Dennis concluded his study with the statement that "present evidence shows clearly that the general picture of infancy in the two cultures is the same in spite of the diversity of the customs surrounding child care… this corroborates the view that the characteristics of infancy are universal and the culture overlays or modifies a more basic substratum of behavior"

9. Position in the family:

The position of the child within family may influence his development more through environmental than through native factors. The second, third or fourth child within a family generally develops more quickly than the first-born, not because of any pronounced intellectual difference, but because of the fact that the younger children learn from imitating their older brothers and sisters. On the other hand, the youngest child of the family, especially if distinctly younger than the other children, is apt to be slower in his development because he is "babied" and given little incentive to develop his latent abilities.

DEVELOPMENTAL PERIODS

Lawton has pointed out that "Our life span is divided into periods, each with its own problems of adjustment. These age periods are not related in surface story since the problems change; it is the method of attacking these problems which is likely to remain the same. Throughout the life span, people develop techniques are suitable and efficient, others are in appropriate and wasteful, or a method may be suitable for one age period and one another". What changes take place will depend upon the needs of the individual at that particular stage of this development.

Scientific studies of children have shown that at different ages certain general forms of development are taking place which distinguish that age from the ones which precede and follow it. As the child emerges from one developmental period to another, there is a gradual shift in emphasis on the dominant form of developmental taking place at that time. While there is no clear-cut dividing line between the different periods, nevertheless it is possible, on the basis of evidence derived from the study of large groups of children, to mark off major developmental ages, each characterized by its own specific form of developmental, which overshadows in importance the rest of the development occurring at that age.

The five major developmental periods, with their characteristics forms of development, approximate ages, and names commonly applied to them are as follows.

1. **Parental Period:**
   This period extends from conception, when the female ovum is fertilized by the male spermatozoon, to the time of birth, roughly 9 calendar months, or 280 days. While the prenatal period is a short one, it is nevertheless one of extremely rapid development. Developing form an organism microscopically small to an individual weighing 6 to 8 pounds and measuring approximately 20 inches length is without question raid growth. The primary development taking place at this time is physiological and consists of the growth of all the bodily structures.
2. **Infancy**:
   Beginning with birth and extending to the age of ten to fourteen days is infancy, the period of the *neonate*, or the *newborn*. This is a plateau, or resting stage, in human development. It is at this time that adjustment to a totally new environment, outside of the mother's body, must be made, and thus the infant learns to be self-dependent. During this time growth, for the most part, comes to a standstill temporarily and is not resumed until the infant is able to cope successfully with his environment.
3. **Babyhood:**
   The third developmental age in the child's life is babyhood, a period extending from the age of two weeks to approximately two years. This is the age of helplessness because of the baby's necessity for depending on others for his every need. Gradually the baby

becomes more independent through learning to control his muscles so that he can feed himself, walk, dress himself, talk, and play. Accompany this self-reliance is an attitude of independence, which is apt to make the child resent being "babied".

4. **Childhood:**

Strictly speaking, the childhood years include the years from age two to puberty, through the entire period of immaturity, from birth to maturity, is often *called childhood.* Development at this age is characterized first by growth of control over the environment. The child who, as a baby, learned to control his body now seeks to gain control over this environment so that can make him a part of it. When he is not able to do this, he relies upon the use of speech to gain the information he seeks. As a result; he is often a "living question mark." In addition to this, the child learns to make social adjustments at this age. From approximately the sixth year, socialization is of paramount importance. The name "gang age" is sometimes given to this period because group activities of all sorts play so important a role in the child's life.

5. **Adolescence:**

The adolescent years extend from the onset of puberty, between the ages of eleven and thirteen years in the average child, to the age of maturity, twenty-one years. Because this is such a long developmental age and because different forms of development occur at different times within this age, it may be subdivided into three shorter periods, (a) pre adolescence, (b) early adolescence, and (c) late adolescence.

(a) Pre adolescence. This is a short period, approximately a year long, immediately preceding adolescence proper. In girls it generally occurs between the eleventh and thirteenth year, while in boys it comes approximately a year later. It is called the "negative phase" because there is normally a negative attitude or an "about-face" in behavior at this time. Rapid psychological development of the sex life of the child seems to upset, temporarily, the environmental and social control developed in earlier ages.

(b) Early adolescence. This period follows preadolescence and extends to the age of sixteen to seventeen years, thus coinciding with the high –school age. Very often it is called the "awkward age," because of the awkwardness, clumsiness, and accompanying self-consciousness which so frequently occur. During this time physical and mental growth are completed.

(c) Late adolescence. This last development age, coinciding roughly with the college age, is often referred to as the "smart," or "show-off," age because of the keen delight which the normal boy or girl in this phase of development shows in being the center of attention. The most important forms of development which occur are adjustment to a mature form of life, in which the child learns to be independent of adults and plan his life according to his own wishes. In addition to this, there is adjustment to members of

opposite sex, in which the adolescent gradually learns to get along with members of the opposite sex in work and social activities.

In general, late adolescence may be looked upon as the last step in the long period of development which begins at the time of conception. By the end of the adolescence, development has reached a point where the individual is legally and socially regarded as mature, and thus capable of living an independent life, free from supervision and guidance.