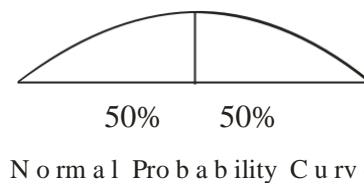


INDIVIDUAL DIFFERENCES

8.1 MEANING AND NATURE OF INDIVIDUAL DIFFERENCES

Experimental psychology has thrown adequate light on the nature and extent of individual difference; the findings of modern psychological tests and measurements have amply demonstrated that individual cannot fall into distinct categories in respect of any physical or mental trait. On the other hands all measures of individual, whether they be physical, mental, emotional or some other show that they tend to distribute themselves according to the law of the normal probability curve.



The normal curve is bell shaped and bilaterally symmetrical on each side of its central tendency the mean. Just as many persons are above the average as are below it, starting with the lowest score there is a gradually increasing number of persons making each next higher score gradually decreases until the highest score is reached. For example, the following table indicates the distribution of intelligence according to the normal probability curve.

Table-1: Percentage Distribution of IQs in Term An-Merrill Standardization Group

S. #	Intelligence Quotient (IQ)	Percentage of Cases Occurring
1.	150+	0.2
2.	140-149	1.1
3.	130-139	3.1
4.	120-129	8.2
5.	110-119	18.1
6.	100-109	23.5
7.	90-99	23.0
8.	80-99	14.5
9.	70-79	5.6

10.	60-69	2.0
11.	50-59	0.4
12.	Below 50	0.2

Source: Adapted from Maud. A. Merrill, "significance of IQ on the revised standard binet scales" Journal of education psychology 29, 1938, 641-51.

Individuals not only differ among themselves with respect to a specific trait but differences may also be noticed within the same individual when he is studied in respect of various traits. Difference may also be noticed in the same individual with respect to this performance of a particular task at different time. Runners differ in running the same distance say 2km. The same runner may cover the same distance taking different times on different occasions. Thus there are inter individual differences and the intra-individual differences, and both must be considered in studying individual differences.

8.2 Areas of Individual Differences

Individuals differ almost in every respect. They differ in physical as well as psychological characteristics. Some of the major areas in which they differ and which affect their personality growth to a large extent are age, height weight, sensory and motor powers, intelligence aptitudes or specific abilities, interest attitudes, appreciations and educational attainments. They also differ in their hereditary, family background and environmental influences.

(1) Chronological Age

One of the general factor of difference that influences school grading is chronological age. A child enters school at a certain age, 6 years, and is supposed to progress regularly in his schooling in terms of age factor. It is assumed moreover, that all children should be able to profit similarly from instructions that is the same or nearly the same in content and method of presentation for all learners on the respective grade levels. Apparent in ability on the part of a learner to master study material is explained in terms of factors such as laziness or stubbornness, that fail to take into consideration the factor that learners differ in their ability to perform in any one or more areas of learning material and at any one stage of development.

Chronological age as it represents the learners level of maturity and hence his possible education, is and should be a factor of difference. No matter how superior mentally or physically a child of three may be, he cannot be expected, because of difference in degree of maturity to engage in learning activities that are suitable for the nine year old. Further, readiness to engage in a particular learning situation may differ from individual to individual on any age level.

(2) Intellectual Abilities

Views about the nature of intellectual abilities continue to change. For many decades the idea of a general intellectual ability was very popular. Then, the idea of a few primary mental abilities was added. Next, a structure of some specific abilities was proposed. At present, a major attempt is being made to identify the basic mental processes and learning strategies that underlie intellectual performances. The testing of intelligence began on a widespread basis in 1916 in the United States when Terman (1916) adopted the earlier version of an intelligence test by ‘Binet’ and ‘Simon’. Terman thought of **intelligence** as the ability to carry on abstract thinking Thorndike (1926) defined **intelligence** as the ability to make good responses from the point of view of truth or fact.

Wechsler (1958) developed an intelligence test to measure the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with the environment. The Wechsler Scale included performance test as well as typical verbal and mathematical test. Jones Miller and Moodie (1934) conceived of **Intelligence** as in born whereas Hunt (1961) viewed it as almost totally determined by environmental condition. ‘Terman’ regarded **Intelligence** is determined almost solely by heredity. Accordingly, he believed that the rate of intellectual development was fixed by heredity and therefore did not change from birth onwards. Cattell (1971) proposed two kinds of general intelligence, fluid and crystallized. **Fluid Intelligence** is genetically determined and sets the upper limit of the individual’s ability. How well the inherited ability is used and what forms it takes depend on cultural factors including learning.

(3) Primary Mental Abilities

Thurstone (1938) identified seven primary mental abilities, and devised tests to measure them. The seven primary mental abilities are shown in table 2.

Thurstone’s identification of primary mental abilities refutes the idea underlying general intellectual ability that persons are equally able in all academic areas. Instead, most individuals

vary markedly in verbal, numerical, spatial and other abilities. For example it is possible for a student to be in the top one-fourth of the students of the same grade in one ability, such as spatial, or mathematical, and to be in the bottom one-fourth of the same students in another ability such as word fluency or perceptual speed. The primary abilities emerge and reach full functional maturity at different rates. For example, perceptual speed approaches full functional maturity corresponding to that of adult status by age 20, Whereas word fluency and verbal comprehension only reach such a level, respectively, of about 60% and 80% of adult status and by 20% our verbal growth continues after we have peaked in perception; speed.

Table-2: Primary Mental Abilities

S. #	Ability	Description
1	Verbal Comprehension	The ability to understand the meaning of words vocabulary test represent this factor.
2	Word Fluency	The ability to think of words rapidly, as in staving anagrams or thing of words that rhyme.
3	Number	The ability to work with numbers and perform computations
4	Spatial	The ability to visualize space-from relationships, as in recognizing the same figure presented in different orientations.
5	Memory	The ability to recall verbal stimuli, such as word pairs or sentences.
6	Perceptual Speed	The ability to grasp visual details quickly and to see similarities and differences between pictured objects.
7	Reasoning	The ability to find a general rule on the basis of presented instance, as in determining how a number series in

		constructed after being presented with only a portion of that series.
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(4) Differences in Readiness for Learning

Children of the same age are not necessarily at the same stage of readiness to learn. Differences are caused not only by variation in state of maturing but also by differences in previous learning background. Six years olds who enter the first grade may differ by one, two, or even three years in degree of readiness to profit from formal education. For example it has been found that the mental ages of the members of an entering first grade class may range between that of a three-years old and that of an eight years old. This means that although the chronological ages of the children may centre around six years, their stage of mental maturity (mental age) varies by five years. Also, pre-school home experiences may be such as to encourage the development of some children more than that of others.

Perhaps in no other field of learning, readiness to a learning is more important than it is in reading. The ability to adequate thought from the printed page is essential to success on all school levels as well as to proficiency in the higher forms of specialized learning. One of the most significant aims of fundamental education is to prepare the child to master the tools of reading during his elementary school training so that he may be prepared to extend his knowledge in the various areas of higher learning on the result of his acquired ability to understand and apply content of written material.

(5) Differences in Motor Ability

Persons of any age differ in their ability to perform in activities that are preeminently motor. In general, motor coordination and ability to perform successfully in the more complex motor skills increase with age as maturity brings with it the more complex motor skills increase with age as maturity brings with it the power of sustained attention, muscular coordination, speed of performance, steadiness of control, and resistance to fatigue.