INTRODUCTION

A. THE CONCEPT OF INDIVIDUAL DIFFERENCE.

In this world we have never seen two individuals who show exactly the same progress and achievements in life. This is mainly due to the fact that every individual human being comes to this world being endowed with certain innate potentials. These potentials of the human organism are at the root of its growth and development processes and external behaviour. These innate potentials of the organisms differ from individual to individual. For the difference of these basic characteristics of the human organism, we observe, even under the same environment and conditions, individuals to show wide range of variations in respect of their progress and development in life. We observe people to show different behaviour, responses and reactions under the same condition and situation. We observe, in many cases, that the same situation causes different mental reactions to different individuals even though all of them are equally concerned with the stimuli. In our environment, we observe individuals who show significant progress out of their usual effort. But under the similar condition, we also observe individuals who inspite of their serious effort show very poor progress in life. In education, children belonging to same environment and of the same age group are found to show in their achievement significant variations among themselves even though they are all exposed to the same learning situations. We can show many other such examples from our observations of day to day life situations to explain the concept. Thus we see individual differences in case of our knowledge, habits, personality
character traits, taste and temperament, motive and purpose, interest and aptitude, ways of imagination, thinking, feeling and reasoning; in qualities such as courage and confidence, tolerance, perseverance; in physiological factors, such as health and vitality, power of the sense organs, rate of physical growth and maturity and in many other respects both physical and psychological.

In the modern world, psychologists and thinkers have given much attention to this area of human psychology. Large number of psychological tests have been devised for analysis of this basic problem and determination of individual differences in intellectual area and also in characteristics of the human organisms in the non-intellectual areas. Various scientific studies, observations and experiments have been made in the subject by psychologists and thinkers. It has been shown from such studies, that the rate, level and pattern of growth is unique to each individual human organism. From an intensive study of growth processes of individual growth curves by W. Olson and B. Hughes observed that growth is a highly individualised matter and there are significant variations among individuals in the rate level of growth and pattern of development.¹ Another study shows that the overall pattern of development of human organisms differ from individual to individual.² Such scientific study also shows that among children there is a wide range of variations in their general developmental pace specially in the progress of physical growth and maturation.³ This way, there are large number of scientific studies and investigations made in the area and it has now become established that there are

¹ Olson, W. and Hughes, B., 'Concept of growth: Their significance for teachers' Childhood Education 21 (1944), 53-63.
individual differences in all psychophysical characteristics of the human organisms.

Heredity and environment are the two terms used by the psychologists to include all factors and forces that cause individual differences. Heredity includes all those innate traits and characteristics of the organism both physical and intellectual. The hereditary elements, as we have already mentioned earlier, stimulate the growth and development of the human organism from within. Environment includes all external conditions. It provides opportunities to the individual for accomplishment of his hereditary possibilities. His abilities would remain stagnant unless an effective and suitable environment is provided for. Unlike heredity, an individual can control his environment and adapt it to his necessity. But heredity is fixed and determined at the moment of fertilisation. Therefore, the hereditary elements are inborn and uncontrollable. The child's heredity is his own unique combination of genes which make him different from that of other individuals even of his own parents.

Heredity limits all our progresses in life. To what extent and in which direction an individual can proceed in course of his progress in life is determined by the hereditary factors. Inspite of all effort, it is not possible for him to exceed the limit set by heredity. His progress and achievements depend on what and how his hereditary abilities permit. Individual difference is, therefore, a natural consequence which is bound to take place because of the uniqueness of the fundamental bases of the human organisms. Hence, the problem of individual difference really means not creating uniformities but to provide for scope and conditions in environment.
so that the individuals may maintain their progress and development according to their differences in abilities. In education, the teachers' major responsibility is to create such an environment with free and unlimited opportunities under which every child is able to show his achievements according to individual difference in abilities and maintain it in course of his academic progress.

B. SIGNIFICANCE OF THE PROBLEM IN PRIMARY EDUCATION.

Education, in its true sense, is mainly concerned with unfolding the inner potentialities of every individual child. It must help each child develop individually as desired by society. In other words, education is a process of socialisation of the individual out of his hereditary possession. The teacher, therefore, must help every child to progress as he is within himself.

Primary education opens the first gateway of formal learning. The future educational progress of the child depends on the foundation prepared at this stage of education. Any deficiency at this stage retards the future educational progress of the child. At this stage, children are generally found to show considerable variations among themselves. Besides their variations in abilities, they also show significant differences in experiences; because, they come from different family environments. The stimulational value of all family environments facilitating the processes of education which the child is made to undergo is not the same. It usually differs from environment to environment. Children who come from advantaged socio-cultural and economic condition already
posses sufficient academically useful experiences before they come to school. On the other hand, most of the children who come from disadvantaged socio-economic and cultural condition show deficiency stage in many respects. Children at this/also differ among themselves in maturity, interest and aptitudes, emotional growth, power of retention and adaptability, taste and temperament and in many other respects both physical and mental. At the primary level, there are very few children who may understand the necessity of education. Therefore, very few children may show self effort in learning. The teacher is to create all conditions in the classroom environment to meet the above variations of the little children. Sufficient individual attention become necessary to help each one of them to achieve at his own capacity level.

C. STATEMENT OF THE PROBLEM UNDER THE PRESENT INVESTIGATION.

Children's abilities in case of their academic progress are usually examined in our schools through achievement tests as well as through observations in some cases. Such tests are based on the contents taught in the classes or outside during school hours. Home coaching does have impact in the process, but in the present study this has been avoided by not taking such cases into consideration.

Individual differences in abilities of achievements are obviously reflected in the academic progress of children even though all children are exposed to the same situations in the school environment. Each child may vary in respect of their
academic achievements showing different levels of competence. Such variations may be attributed to a host of factors innate as well as environmental; innate such as mental, psychological, may be sometimes physical such as defects in sensory organs etc., and environmental such as social, economic, cultural, educational (which is assumed to be constant here) and other miscellaneous factors. Further, an individual child may also vary in achievement level with passage of time. That is why, we sometimes find children who do not maintain consistency in their academic achievements as they progress.

In the present study, the term Individual difference was not, of course, taken in a very rigorous sense. This investigation was meant to study the range of variations in achievement abilities reflected in the academic progress of children at the primary stage and the consistency aspect of such variations i.e. to study the way children vary among themselves in abilities of academic achievement and whether they are able to maintain the consistency of such variations in course of their academic progress from grade to grade during the stage of primary education. Studies were also made to see whether factors like sex difference among children, socio-economic variations, methodical teaching by trained teachers, good physical and teaching learning conditions of the school, teacher-pupil ratio, age variations, individual attention by teachers have any impact on the problem. An effort was also made to study the trend of variations in individual cases. Further, an observation was made to see the correspondence between variations in achievement abilities of children and general mental abilities.
D. OBJECTIVES OF THE INVESTIGATION:

The following were the objectives of the investigation.

1. To observe the range of individual differences in abilities reflected in the academic progress of children during the course of primary education.

2. To observe whether children are enabled to maintain their individual differences in ability levels of achievements from grade to grade in course of their academic progress.

3. To observe the trend of achievement and variability of individual cases.

SOME MINOR STUDIES RELATING TO THE PROBLEM.

1. To observe the impact of sex difference on the problem.

2. To observe the impact of Environmental Variations on the problem.

3. To observe the impact of teaching by trained and untrained teachers on the problem.

4. To observe the impact of school condition and teaching facilities on the problem.

5. To observe the impact of Multiple class teaching on the problem.

6. To observe the impact of Individual attention by teachers on the problem.

7. To observe the impact of age variations on the problem.
E. **SCOPE OF THE INVESTIGATION.**

The investigation was confined to the primary schools of Jorhat area of Sibsagar district in the State of Assam. Eighty seven primary schools were covered. Two thousand ninety four cases of primary school children were selected from these schools for the investigation. All children selected for the study belong to age groups 4+ and 5+ at the time of admission into grade 1.

The Jorhat area was selected for the investigation due to reasons given below.

1. The primary schools of the area represent the general conditions of primary education, its traditions and conventions prevailing in different areas of the state. The school conditions of the area as a whole appear to represent the general school conditions i.e., conditions of school environments both physical and educational, school facilities and also conditions of school going children of the entire state at the primary level.

2. The area also represents general conditions of school variations at the primary stage. The area possesses basic and non-basic schools, schools with multiple class teaching, schools with majority trained as well as majority untrained teachers, urban and rural area schools, male and female teachers' schools, schools with children of backward communities, scheduled castes and slum area schools also some model primary schools.

3. Examination system, method of teaching, curriculum and syllabus also text books used by the schools of the area are the same throughout the state.

4. Besides, for case studies, such confinement was preferred.
F. METHOD AND STATISTICAL TECHNIQUES.

1. DATA COLLECTION.

The data, such as the examination marks of the children, information about the socio-economic and cultural condition of the localities where the schools are situated, educational and physical facilities of the schools and the condition of the school environments, teacher-pupil ratio, experience and qualifications of teachers and other relevant information were collected by the investigator himself directly visiting every school. Information about parents' education, occupation and income level had been collected through the teachers. In order to observe the effect of age variations on the academic achievements of children, the chronological ages of a representative group of sampled children of the town primary schools of Jorhat area were collected by consulting their original horoscopes.

2. SAMPLING:

For sampling, the schools were stratified. In stratification, discriminating factors such as, the location of the schools, teacher-pupil ratio, general economic and social condition of the localities, condition of school environment, teaching facilities, teachers' training, experiences, sex, age and qualifications were taken into consideration. Sampling was made by random selection proportionate to the number of children of each strata. Selection was made by the help of random number tables. Altogether three hundred children were selected representing the entire population. The sample includes 15 %
cases of the total population.

G. METHOD AND TECHNIQUES OF ANALYSIS:

For statistical analysis, the scores of the sampled children were organised gradewise. The scores shown by each child in gradewise achievement test were placed against the same serial so that it would be convenient to observe his progress straight way through out the course of education. The scores are shown by working out the percentage in every grade for comparison.

1. TO OBSERVE THE RANGE OF INDIVIDUAL DIFFERENCES IN ABILITIES REFLECTED IN THE ACADEMIC PROGRESS OF THE SAMPLED CHILDREN.

The gradewise range of individual differences in abilities of achievements was observed by frequency distribution of the sampled children on the basis of relative positions maintained by them in the achievement test of the respective grades.

2. TO OBSERVE CONSISTENCY OF INDIVIDUAL DIFFERENCES IN ABILITY LEVELS OF ACADEMIC ACHIEVEMENTS AMONG THE SAMPLED CHILDREN.

In order to observe whether the children maintain their ability levels of achievements consistently from grade to grade, the sampled children were divided into two sub-groups; first, on the basis of their ability levels shown by them in achievement test of grade I. Those children who were found to show their relative positions above the sample mean were taken as above average
children and who show below the sample mean were taken as below average children. Frequency distribution of the two groups of children was arranged separately. The distribution was shown at an interval of three points positive deviation from the position of the sample mean in case of children of the above average group and three points negative deviation in case of children of the below average group. This arrangement would show the relative positions of the children in the respective direction of the scale from the position of the sample mean at the initial grade. Then, taking each group of children their achievements of the subsequent grades were observed. The analysis was made to see whether the children maintain their respective direction and positions of the initial grade in their achievement tests of the subsequent grades as well. In this connection, the child's position in the subsequent grade's tests was also considered relative to the position of the sample mean. If the child's position in the subsequent grades' tests shows any improvement or fall relative to the improvement or fall of the position of the sample mean, in that case, the child's competence of the initial grade was considered to have been maintained consistently.

The sampled children were again divided into two sub-groups on the basis of their ability levels shown by them in the achievement test of grade II. The same technique of analysis was applied. This analysis was made to see whether the children maintain their differences of abilities shown in grade II achievement test in their achievements of the subsequent grades' tests i.e., in the achievement tests of grade III and grade IV.
Again, the sample was divided into two sub-groups on the basis of ability levels shown by the children of the sample in the achievement test of grade III. The same technique/observation was applied. This analysis was made to see whether children maintain their variations in ability levels shown in grade III test in the achievement test of the subsequent grade i.e., in grade IV.

3. TO OBSERVE THE TREND OF ACADEMIC PROGRESS AND VARIABILITY OF CHILDREN OF THE SAMPLE SHOWING AVERAGE, ABOVE AVERAGE AND BELOW AVERAGE LEVELS OF ABILITIES OF ACHIEVEMENT.

Finally, the children of the sample were divided into three sub-groups. For this purpose, the scale was divided into three ranges. The range of the scale within sample mean and plus-minus one standard deviation was taken as the average range of the sample, the range above the average range was taken as above average range and below the average range was taken as below average range of the sample. Those sampled children who were found to show their ability levels of achievements within the average range were taken as children of average abilities, those who show in the above average range were taken as children of above average abilities and the rest who were found to show their ability levels of achievements in the below average range were taken as children of below average abilities. This grouping of the sampled children was also made on the basis of ability levels shown by them in the achievement test of grade I, grade II and grade III. Taking each sub-group, three important aspects in respect of academic progress of the children were observed.

(i) The trend of academic progress of children of different ability groups during the course of education under study.
(ii) Whether the sampled children of each sub-group maintain their relative positions consistently from grade to grade.

(iii) The nature and extent of variability shown by the sampled children of each sub-group.

4. COMPARISON OF ACADEMIC PROGRESS OF THE SAMPL ED CHILDREN OF AVERAGE, ABOVE AVERAGE AND BELOW AVERAGE ABILITIES.

The trend of achievement, nature and extent of variability etc., were compared at this phase of analysis. The trend of achievements of the sub-groups is shown compared by testing the groupwise mean differences of the sub-groups. Student's 't' test is used to show the significance of the mean differences.

The formula used here is, 
\[ t = \frac{X_1 - X_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}} \]

where 'X' denotes the number of children and 'X' denotes the mean scores of the group and 's' shows the standard deviations. The variability of children of the groups is shown by co-efficient of relative variability. Another aspect, whether the children of the groups maintain their group identity consistently from grade to grade ie, their mean differences, is shown testing the significance of the mean differences of the groups in each grade by the help of 't' test.
6. TO STUDY THE MINOR OBJECTIVES:

Some minor studies particularly with a view to observing the causes connected with the problem of the present investigation were made. Same method and techniques applied in major investigation were used in these studies as well.

7. TO OBSERVE THE EFFECT OF AGE VARIATIONS ON THE PROBLEM:

In order to observe the effect of age variations on the problem, a study has been made with a representative group of children of Jorhat area. For the purpose, the chronological ages of the group of children were collected by examining their original horoscopes. The age variations were found to spread over within the range age three and six plus. The ages were calculated on the date of admission into grade I of the primary schools. Of course, very few cases below age four and of age six and above were found after age calculation of the group of children. For analysis, the children were divided into age groups 3,3+, 4,4+, 5,5+ and 6,6+. All the age groups are found to represent the socio economic and cultural conditions of the area. The achievements of children of each age group were collected from school records. The mean achievements of the age groups are compared with one another. The achievements of individual cases are also examined carefully.
Till the later part of the nineteenth century, psychologists were not concerned with the problem of individual difference. It was the uniformities rather than the differences in behaviour that attracted the attention of the psychologists of the early nineteenth century.

Francis Galton (1822-1911) made the first scientific investigation on the problem of individual differences. He, for the first time, developed statistical methods for the analysis of data on the problem of individual differences.

Among the earliest contributors in the field, mention should be also made of the names of Esquirol, the French physician, Seguin, the American psychologist, Mckeen Chattel, Kraepelin, Ebbinghaus, Ferrari, the British Biometrician, Karl Pearson etc.

Binet started a new era in the field of mental measurement. Binet constructed the first preliminary scale of measuring intelligence difference among children in year 1904. This is the first scientific scale for the study of individual difference in mental abilities. After various criticisms and suggestions, the scale underwent three major revisions during his life time.

These tests attracted the attention of psychologists throughout the world and have been translated and adapted. Various studies on the problem of individual differences have been made in the present day world on the basis of these tests.

Scientific investigation into the problem has received much more attention of psychologists and educational thinkers in recent time. Given below a few significant researches made on
the problem bearing relevance to the present investigation.

W.Olson and B.Hughes made a study on the significance of individual difference in the rate, level and pattern of growth. They made an intensive study on fifty six individual growth curves in reading. From their study, it has been discovered that the rate of growth and the pattern of development is unique in each human organism. The study shows that, growth is a highly individualised matter and children differ among themselves significantly in the rate, level of growth and pattern of development. From the observation, they did not find a single growth curve which agrees with the description of the average. The study gives a very significant information to the field of education. The study suggests, that though for the purpose of convenience children are taken in our class rooms in a group, the teacher should take every child as an unique individual.

Leland H. Stott has made a study on child development on the basis of an individual Longitudinal Approach. The study is made with data from the actual developmental files which are recorded through direct observation in course of growth and development. He used data from the developmental files of one of a series of longitudinal research families to show the principles of human development. It has been discovered from the study, that the overall pattern of development of human organisms differ from individual to individual. Children differ significantly in general developmental pace. This is shown by the children specially in their physical growth and maturation. The study shows, when the developmental profile is prepared a significant irregularity is
reflected in the growth and development of different traits and that the pattern of such irregularity is different from individual to individual. The growth curves of various traits when plotted over a long period of time, the curve representing each trait shows significant difference. Such developmental discordance have been found to vary from individual to individual. According to Millard and Olson, there is a negative relationship between such developmental discordance and the psychological adjustment of the organism.

Arthur Delong made a study on the problem of individual difference with a number of groups of children. From his study, he has observed that there are very few children in a group who can fit the description of the average even when the average range includes eight times the standard error of measurement.

E. Cornell made a study on the variability of children of different age groups with a view to observing the problems of school classification and grouping. From her study, she observed that the grade range in achievement among a group of children of seven years old varies from grade I to grade VI. Observing the case with a group of children of ten years old, she found the grade range in achievement to vary from standard second grade to standard ninth grade.

P. Scopes made a study with a group of gifted children the problem of individual variation in the rate of learning. The study was made on the basis of an intensive accelerated mathematics programme. He observed significant variation in the rate of learning among the children. His study shows that for effective
learning the individual difference must be provided in classroom practice.

A significant study has been made under the direction of Lewis M. Terman on the nature and development of a thousand gifted children. He used Stanford Binet test to screen and select the gifted children for his study. This is a very long term investigation with follow up observation for a number of years. The study shows, that gifted children posses superior physical growth almost in all respects, interest in subjects like science and mathematics, books containing biography, science and poetry etc. They can take quick decision. These children attain early maturity. Compared to the non gifted children, they can understand things quickly, adapt to situations easily. They are very curious and informative. It has been discovered from the follow up study, that most of these gifted children grow up as gifted adults and maintain their superior traits almost in all respects in course of their growth and development in life.

F. Tyler made a study on the problem of intra-individual variability. It has been observed that children may show the same level of performance in a general achievement test, but they may vary significantly in component abilities. There may be group identity in respect of some interrelated variables, but at the same time there may be significant heterogeneity due to intra-individual variability. Therefore, grouping is not a final solution of the educational problems. For effective education, the individuality of the child must be taken into consideration. To help the child develop properly, the teacher must take into account every factor which stimulates the total growth of the child.
From the above studies, it shows that unless we consider the problem of individual difference, our educational effort would not be properly effective in the academic development of the child. Hence, researches and experiments in this subject is essential. In our country, it is unlikely that none has done any work in this line. However, due to inadequacy of research publication in our country, the present investigator has not been able to lay his hands on any work which bears relevance to the present investigation.

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