CHAPTER IV
MENTAL DEVELOPMENT
OF THE CHILD

00 Importance of Understanding the Mental Development

00 Piaget's Theory of Mental Development

00 Cognitive Development
- The Development of Perception
- Concept Formation
- Language Development
- Memory

00 The Present Experiment
MENTAL DEVELOPMENT OF THE CHILD

Importance of Understanding the Mental Development

Until the seventeenth century there was no special emphasis on childhood as a separate phase of life. However, some exceptional scholars and thinkers of ancient days were interested in children's development because they felt that what happens in childhood has strong impacts on later development. Plato, for example, recognized the importance of early childhood training in the determination of the individual's later vocational abilities and adjustments.

The systematic study of children started in the twentieth century. In the beginning these studies were limited to the discovery and description of age trends that is, the measurement of age changes in physical, psychological and behaviour characteristics. The researchers were preoccupied with the establishment of age trends in the development of psychomotor skills and intelligence. In the field of child development cognitive research is an important area which received increased attention. To improve the educational practices, it required a better understanding of the development of perception, learning, thinking, language ability, concept formation, techniques of problem-solving and creativity.
One talks much about the equal opportunities to each and every citizen of India, but practically one is not able to define what is meant by equal educational opportunities. The children from the lower classes and rural areas are significantly lower in their educational achievements. Furthermore, these children appear to be less highly motivated for schooling than middle and upper class children. As a society, India is committed to make rapid improvement of the social and educational status of groups that suffer socio-economic deprivation. To accomplish this goal, children of poor background must be provided with educational opportunities at least equal to those children who are more economically favoured. In addition to this they must be enabled to benefit from these opportunities.

Researches in the field of developmental psychology may prove useful in understanding and solving these problems. It has been hypothesized that many environmental factors, inadequate nutrition and social class value systems may affect the child's intellectual ability. The studies of the mental development of the child and researches related to the field can solve these problems to some extent.
Piaget’s Theory of Mental Development

Jean Piaget, the Swiss psychologist has had an extraordinary influence on modern developmental psychology. He has stimulated an interest in maturational stages of development and in the importance in cognition for many aspects of psychological functioning. According to his views, the child’s belief thoughts and ways of approaching problems are primarily the results of what he has taught directly. The important ideas in Piaget’s theory are discussed in the following paragraphs.

Piaget believes that children invent ideas and behaviours that they have never witnessed. The central concept in the Piaget’s theory is the ‘Operation.’ An operation is a special kind of mental routine whose chief characteristic is that it is reversible. According to him the acquisition of operation is the heart of intellectual growth. He believes that mental growth involves resolution of the tension between assimilation and accommodation.

Piaget believes that there are four major stages of intellectual development: Sensimotor (0 to 18 months), Pre-Operational (18 months to age 7), Concrete operations
Cognitive Development

The child's remarkable progress during the pre-school period in motor abilities, language and cognitive function is paralleled by vast changes in his personality characteristics and motives. The pre-school child has a much richer, more complex and more highly differentiated personality than the infant. Here personality refers to the total organization of an individual's characteristics, the
ways of thinking, feeling and behaving. Here cognition refers to the 'higher mental processes' that is to the functions involved in understanding and dealing with the world. It includes perception, language, concept formation, abstraction, problem solving and thinking. Thus the development of various aspects of cognition or the 'higher mental processes' gives us a clear picture of the mental development of the child.

As the scale which is adapted by the present investigator covers the age range 4 years to 6½ years, he has discussed the various aspects of mental development of this age range only.

The Development of Perception

As Mussen describes we have only limited and spotty knowledge of the complex perceptual changes occurring between infancy and adulthood and the process underlying them. (Mussen, p. 33). The neural mechanisms accounts for improvement in perception are still unknown. Ability to discriminate among forms of complex numbers and the letters of alphabets develops gradually and is fairly well established at the age of 5. The visual discrimination of letter like forms improves continuously from
age four to eight. Improvement in making visual discriminations plays a critical role in the child's learning to read.

**Concept Formation**

It is very difficult to make a clear-cut distinction between percept and concept. Psychologists regard perception as organization of simple sense impression whereas concept formation involves discovering and defining the critical feature common to a group of objects or events. It is obvious that child's store of concept depends upon his culture and past experiences, for these define the variety and types of concepts available to him. Skill in concept formation is closely linked to acquisition of language, particularly to labeling. Higher order conceptualization is not generally achieved until some time during the school years. Grouping concepts into abstract categories to form higher categories, depends upon the recognition of the common elements in that concept. For example, in the present adaptation of WPPSI in similarity test, the item 'In what way a cat and mouse are alike?' was answered by very few students of the age group 6½.

By the time a child enters the first grade, he has a large variety of concepts pertaining to his physical environment, animate and inanimate objects, toys, games,
his home and family. As for numbers and abstract ideas, however, he is just beginning to form concepts. The first few years of school are of critical importance in the child's conceptual development. During the preschool period, children learn to discriminate between a large and a small number of objects and at the age of five, he may be able to count objects in small series.

Intensive systematic research on young children's potential for learning mathematical concepts began only a few years ago in America and in other western countries. In these countries there are a number of excellent projects in which first and second grade pupils are taught basic concepts of geometry, higher mathematics (for example set theory and lattices), and physics (the concept of force, for instance). The preliminary results indicate that youngsters are able to master some concepts of higher mathematics much more readily than educators have previously thought. During this period the concepts of time and social relations also develop gradually.

Language Development

The structural pattern of speech changes rapidly during the pre-school years. During this period the child's vocabulary expands greatly, and uses words more
efficiently and more flexibly. Sentences become progressively longer, more complex and more elaborate. At the age of four years, children can use complete sentences six to eight words in length. So far the language development is concerned, the favourable environmental conditions promote the development and social influence may have even more marked effects during the pre-school period. For example, students of urban areas are more advanced in all aspects of language development than the students of rural areas. Social class differences in language ability have shown up consistently in many studies. Children from middle class and upper class homes have better vocabularies, they articulate more accurately, speak more correctly and grammatically and construct more elaborate sentences than the children from lower class homes. This difference also affects the score of intelligence tests. The results of an interesting experiment by Orvis Trwin of the university of Iowa indicate that increasing the stimulation of the environment of a young child of lower background will lead to heightened interest in language improvement and in speech. (Mussen, p. 44)

Memory

Memory refers to the storage of experiences for a period after they have ended. Modern psychologists
distinguish memory in three categories namely: sensory memory, short term memory and long term memory. An average child, 7 year old, may be able to recall a string of only four difference numbers but will find no difficulty with a sentence of eight to nine words. Perhaps this may be the reason for the inclusion of the test 'sentences' in WPPSI to replace the test 'Digit Span' of WISC. The basic ability to remember and coordinate information increases with increase in age. The role of memory in learning to read is very important.

The Present Experiment

The discussion so far done, is meant to understand that the mental development in pre-school stage plays an important role in shaping the total personality of an individual. So far the western countries are concerned, a number of experiments are in progress to understand and improve the learning process in early schooling.

In India as well as in Gujarat this type of experiments are yet to start. Some experiments regarding reading readiness of younger children have been done at Sardar Patel University, Vallabh Vidyanagar but the remaining areas are yet to be explored. Perhaps this may be due to the lack of refined tools to study the various developmental processes. The intelligence scale for pre-school
children may prove useful to understand the learning problems of younger children.