CHAPTER VII
# CHAPTER VII

## SUMMARY OF THE STUDY

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CHAPTER - VII

SUMMARY OF THE STUDY

7.1 INTRODUCTION:

The development of a new person right from the beginning is really a mystery. After birth every child exercises his senses and gradually he learns to master verbal sequences for communication. Later he becomes the part of the peer group and demand conformity. At adolescence he lives in the world of possibility rather than reality, but he also learns to handle increasingly more and more complex logical operations. Thus there is a transition between the thinking process of children from childhood to adulthood which Jean Piaget a Swiss Psychologist regarded as the development of cognition or knowing or intelligence.

Piaget viewed that, knowledge is built by a continuous process of construction of structures through biological adaptation. This sequence of development which he refers as cognitive development occurs in child due to continuous interaction with the environment. This occurrence of knowledge is invariant in nature which is same for all children regardless of the culture in which they live. This sequence of development cannot be changed or cannot be skipped (that is first stage will follow by second stage without skipping any stage and without reversing the progress). The difference can be observed only in the rate of development. Though there are lots of controversies regarding the concept of 'invariant sequence' but it may be interpreted in three different ways —
First: major development periods or 'global stages' (sensory motor stages) i.e. 0-2 years, when a child solves problems by using his sensori system and motoric activity rather than the symbolic process. (b) Pre-operational stages (2-6 years) when children develop some specific features like language, imitation, symbolic play, drawing, can frame mental images and pictures. (c) concrete operational period (7-11 years) when children can do in their heads what they previously accomplished through their action and (d) formal operational (11 years onwards), where the adolescent’s thought become flexible and effective. They can deal effectively with complex reasoning problems.

Second: there is a fairly reasonable 'within-stage development' sequence of various operations for e.g. the conservation of mass/matter is acquired before conservation of volume.

Third: there is 'within operational developmental sequence' that is before any particular operation is acquired, there is three level of auto-regulatory process of equilibration. During the transitional period there is uncertainty, oscillation and unstable equilibrium during the pre-operational period no conception is acquired. But during the final period when the operation is fully acquired, the cognitive structure becomes stable and equilibrium is achieved.

According to Jean Piaget, knowledge develop through construction rather than transmission by interacting with the physical world of concrete objects or psychologial and social interaction with the environment. Thus this adaptation of knowledge and the cognitive development of children can be enhanced if the parents at home and teachers at school can provide such environment which help them to interact positively, thereby developing their cognitive structure. One of
the essential features of Piaget's Theory of Cognitive Development and its application to education is that, learning would be effective when the children are more active with their peers and where the function of teachers is to create an environment in which the learner is motivated to explore his interest, is an essential attributes of Piagetian Contribution of Education.

Piaget himself has developed some tasks which are mostly designed and used for the assessment of cognitive capabilities of individuals and the level of intellectual reasoning on a given tasks. Tasks are nothing but an experimental conditions which are specially designed to make a problematic situation before the child to elicited the proper response related to that particular tasks. Tasks therefore practically manifest the behaviour related to the concept. Thus all tasks provide an experimental condition for observing subject's behaviour. Many psychologist's like Karplus (1975), Lovell and Shayer (1978) viewed that children should be assigned with tasks which capitalise on cognitive process, according to stages of development. School instructional materials, text books etc. should be according to cognitive level of the learner.

In view of the above facts, some tasks have been developed by the investigator on Piaget's Cognitive Developmental Model on the concept, namely conservation of number, length, weight and area which can be regarded as the basis on which the structure of knowledge in the individual is founded and an attempt was made by the investigator in the present study to analyse the different variables which are related with child parents and schools which keep in facilitating the cognitive development of primary school children which falls into the stage of
concrete operations and hence the study was entitled as.

"A STUDY OF COGNITIVE DEVELOPMENT OF PRIMARY SCHOOL CHILDREN IN RELATION TO SOME SELECT SOCIO-EDUCATIONAL VARIABLES."

7.2 VARIABLES UNDERTAKEN IN THE STUDY.

Two types of variables were emerged from the title of the study. Attainment of Conservation is taken as dependent variable and child related, parent related and school related variables are taken as independent variables which are as follows:

A. Dependent Variables

(i) Conservation of Number.

(ii) Conservation of Length.

(iii) Conservation of Weight.

(iv) Conservation of Area.

B. Independent Variables

(i) Child Related Variables (Age, Sex, Intelligence)

(ii) Parent Related variables (SES Of Parents, Parent Child Interaction, Parental Behaviour, Facilities At Home)

(iii) School Related Variables (School Environment, Teacher-Student Inter Action, Method of Teaching And Facilities For Play)
7.3. OBJECTIVES OF THE STUDY

The present study was conducted with the following objectives:

A. General Objectives

1. To study the effect of child related variables on child's cognitive development.

2. To study the effect of parent related variables on child's cognitive development.

3. To study the effect of school related variables on child's cognitive development.

B. Specific Objectives

1. (i) To study the effect of age on child's cognitive development.
   
   (ii) To study the effect of sex on child's cognitive development.
   
   (iii) To study the role of intelligence on child's cognitive development.

2. (i) To study the effect of socio-economic status of the parents on child's cognitive development.
   
   (ii) To study the effect of parental interaction on child's cognitive development.
(iii) To study the effect of parental behaviour on child's cognitive development.

(iv) To study the effect of facilities provided at home on child's cognitive development.

3. (i) To study the effect of school environment on child's cognitive development.

(ii) To study the effect of method of teaching on child's cognitive development.

(iii) To study the effect of teacher's interaction on child's cognitive development in school.

(iv) To study the effect of facilities for play in school on child's cognitive development.

7.4 HYPOTHESES FOR THE STUDY

The following null hypotheses were formulated to carry out the study, related with the following objectives taken into consideration for the study —

\[ H_{01} \] : Mean cognitive scores of children belonging to different age groups do not differ significantly.

\[ H_{02} \] : Mean cognitive scores of the boys do not differ significantly than that of the girls.

\[ H_{03} \] : There exists no relationship between the intelligence scores and cognitive scores of children.
HO_4: Mean cognitive scores of children belonging to different socio-economic status groups do not differ significantly.

HO_5: Mean cognitive scores of children belonging to high interactive group parents do not differ significantly from that of the low interactive group parents.

HO_6: Mean cognitive scores of children belonging to dominating group parents do not differ significantly from that of the considerate group parents.

HO_7: Mean cognitive scores of children having good facilities at home do not differ significantly from that of the children having poor facilities.

HO_8: Mean cognitive scores of children belonging to private schools do not differ significantly from that of the government school children.

HO_9: Mean cognitive scores of children having different school environment do not differ significantly.

HO_{10}: Mean cognitive scores of children having good, average and poor interaction with teacher do not differ significantly.

HO_{11}: There exists no significant differences on mean cognitive scores of children having good, average and poor method of teaching in schools.

HO_{12}: Mean cognitive scores of children having good, average and poor play facilities in school do not differ significantly.
7.5 METHODOLOGY :

Aimed at studying the development of cognitive abilities of conservation of number, length, weight and area representing the concrete operational stage of cognitive development as viewed by Piaget, the present study employs the cross-sectional design. One section consists of forty subjects at (each age group) was taken across each of the total age range of the primary school children i.e. from 6 through 10 years, resulting into four sub-groups with a total number of 160 subjects.

7.6 POPULATION AND SAMPLE

The population for the present study involved students of class I to IV of the government and private primary schools of greater Guwahati area of Assam.

Sample of the present study comprised of 160 students, 20 boys and 20 girls from each age groups. The subjects were chosen on the basis of the age, sex, grade and SES of the parents. The stratified randomization technique was adopted for the purpose.

7.7 TOOLS USED :

The investigator selected the following tools to study the effect of independent variables on dependent variables. These are :

1. Eight Piagetian Tasks in Piagetian Model.

2. Draw a Man Test. (for measuring intelligence)

3. Self made Questionnaire for (a) Parents (b) Teachers.
7.8. ANALYSIS OF THE DATA:

To observe the cognitive developmental trend on the basis of age and sex of children, data were analysed by computing percentage frequencies, mean percentage frequencies of conservers, transitional and non conservers. The Pearson Product Moment Method of Correlation was used to find out the relationship between intelligence and cognitive development. One Way Analysis of Variances was used to see the effect of SES of parents, school environment, teacher student interaction, method of teaching and facilities for play in schools in cognitive development. 't' test was used to see the effect of parent child interaction, parental behaviour and facilities provided at home on cognitive development.

7.9 FINDINGS OF THE STUDY:

The findings related to the different objectives of the study are stated below on the basis of the general objectives taken into consideration.

7.9.1 FINDINGS RELATED TO THE CHILD RELATED VARIABLES:

Findings related to the first objective for the study i.e. the effect of child related variables on child's cognitive development are stated as below:

1. In the four concepts taken into consideration only 56.66% boys as well as girls in number concepts, 52.33% and 51.66% boys and girls in the length concept, 45.00% and 44.66% in weight concept and only 20.00% and 19.33% boys and girls in area concept are found full conservers or operational among the primary school children in concrete
operational stage. Rest were either found to be pre-operational or non conservers. These results showed that it did not fulfil the criteria of 60% standard which was taken in accordance with the criteria used by Sacket in (1971).

2. In all the conservation tasks there were greater number of full conserver's among older groups in both the sexes. With the age the frequency of full conservers tended to go up.

3. There was a clear developmental trend in acquiring conservation of number, length, weight and area concepts.

4. Sex differences were not found significant.

5. The mean differences of boys and girls scores in performing conservation tasks were not found to be significant.

6. Intelligence found to have positively low correlation with cognitive development of the primary school children in the present study.

7.9.2 FINDINGS RELATED TO THE PARENT RELATED VARIABLES:

Findings related to the second objectives of the study i.e. effect of parent related variables on cognitive development are as follows:

1. Socio-economic status of the family found to have positive influence on cognitive development.

2. Children belonging to high interactive group parents exhibited better cognitive performances as compared to the children of low interactive group parents.
3. Parental behaviour, dominating and considerate do not seem to have any influence on cognitive development.

4. Facilities provided at home found to be highly significant on cognitive development.

7.9.3 FINDINGS RELATED TO THE SCHOOL RELATED VARIABLES.

The findings related to the third objectives of the study i.e. effect of school related variables on cognitive development are follows:

1. Private school children perform better than that of the government school children in all the conservation tasks in both the sexes.

2. School environment seemed to achieve direct influence on cognitive development.

3. Good teacher-student interaction can be regarded as a predictor of cognitive development.

4. Good method of teaching seemed to facilitate cognitive development.

5. Facilities for play in school also seemed to have direct influence on cognitive development.