CHAPTER 3

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3.1 INTRODUCTION

Researches done in any field - may be in natural sciences or social sciences or humanities - are not conducted in a vacuum. Research is a vast ocean and there is a continuous flow of researches like rivers meeting the ocean of knowledge. One who sits on a shoulder of somebody can look far ahead. In the same fashion, the future researchers can investigate more effectively and on a wide spectrum than the present and past ones. They can replicate the studies if there is any confusion in the conclusions drawn by different researchers. Again, they can study in detail the objectives, tools of research, research methodology, methods of analysis, et cetera, followed by various researchers. Thus succeeding researchers can thus take full advantage of the previous researches and can amend, modify or use all together a different strategy which may be more worthwhile. Review of literature is, thus, an important aspect that must be undertaken by the investigator before he or she commences his or her work.

3.2 STUDIES CARRIED OUT ON TRIBAL CHILDREN IN INDIA

The first planned effort to compile all researches at Ph.D. and project levels was undertaken by Prof. Buch (Ed.), Centre of Advanced study in Education (CASE) of the M.S. University of Baroda through its publication, “A Survey of Research in Education” brought out in the year 1974. It contained all the research studies completed in Indian universities upto 1972. The break-up of the studies in the said volume was 462 Ph. D. studies and 269 project researches. While going through this publication, it was found that no note-worthy or remarkable study on tribal children was undertaken till 1972. The same type of compilation work was undertaken by the same chief editor, M.B. Buch with some co-workers and published the national survey of educational research, entitled as, “Second Survey of Research in Education (1972-78) in the year 1979. It was published by “Society for Educational Research and Development, Baroda.” Then, the Educational Research and Innovations Committee (ERIC) of the National
of Educational Research and Training (NCERT), New Delhi took upon itself the task of publishing abstracts of nation-wide doctoral, institutional and individual researches and brought out Third and Fourth Surveys of Research in Education in 1987 and 1991 respectively. P.N. Dave of NCERT, New Delhi, undertook the work of Fifth Survey of Research in Education as a project director and completed his assignment in 1993. Yet, researchers in education await for its publication even in August 1996. The present investigator did try to procure research work done on tribal children in India (1988-92) but her personal efforts were in vain. She could, however, get the titles of some research studies on tribal children. They are appended in Appendix B.

The present investigator went through all the published volumes and tried her best to present the summary of the researches which were directly related to the education of the tribal children of India in the following subsections.

3.2.1 Studies mentioned in the Second Survey of Research in Education

(a)

Title : Wastage and Stagnation in Primary Education Amongst the Tribals of Gujarat

Author : M.I. Masavi, Tribal Research and Training Institute, Gujarat Vidyapith, Ahmedabad, 1971

Objectives : (i) to ascertain the nature and extent of the problem of wastage and stagnation in tribal areas of the state, (ii) to identify the causes responsible for it and (iii) to suggest appropriate remedial measures

Sample : 104 schools and fourteen ashram schools belonging to the fifteen tribal development blocks in the eight tribal districts of the state of Gujarat
Tools : (i) individual and group interviews of local leaders, parents, teachers and educational inspectors and (ii) longitudinal study of class I students enrolled in the years 1967 and 1968

Major Findings :

(i) the rate of stagnation was high in the first grade, (ii) ashram schools showed lower rate of wastage than panchayat schools, (iii) economic backwardness was found to be the primary cause for wastage and stagnation; (iv) other causes for wastage and stagnation were found to be illiterate parents, untrained and inefficient teachers, unsuitable curriculum and medium of instruction, and non stimulating school environment.

(b)

Title : Structural Constraints in Tribal Education A Regional Study

Author : E V. Rathnayya, Andhra University. A.P, 1974

Objectives : (i) to investigate into the structural constraints in tribal education; (ii) to examine the structural variables which impeded or facilitated the process of extension of education among the tribals

Sample : (i) 407 heads of the tribal and 158 nontribal households in 12 villages in State of Andhra Pradesh; (ii) 256 tribal students in secondary schools (iii) 80 teachers in the tribal area

Tools and Technique : Survey technique, structured interview schedules and questionnaires

Major Findings :

(i) There was no significant difference in enrolment of children at the primary level from families of different sizes but there was significant difference at the secondary school level; (ii) The rate of dropouts was found to be large in tribal area schools where out of every 100 children enrolled in the first grade,
only three reached fifth grade, (iii) The tribal teachers were not proficient in the regional and official languages and the non tribal teachers were neither given any orientation in the tribal language nor any special training to teach the tribal children, (iv) The medium of instruction, curriculum, syllabi and textbooks followed in the schools in the tribal area were same as those of the schools in the plains and were not adapted to local conditions (v) The few parents who sent their children to schools expressed a feeling that education had been creating a peculiar situation where the education had not only been unable to secure jobs in modern sectors but they were also lost to their traditional ways of living; (vi) Geographical barriers and inadequate school and hostel facilities in the tribal area had been largely responsible for the slow progress of education of the tribals; (vii) There were variations in the levels of literacy and education among the tribal groups living in the same geographical area.

3.2.2 Tribal Studies included in the Third Survey of Research in Education

(a)

Title : Problems faced by certain Tribal Groups in Trivandrum District in relation to Provision and Use of School Facilities

Author : N.D.Joshi 3, Department of Education, Kerala University, Kerala 1981

Objectives : (i) to find out the facilities for education in the tribal areas; (ii) to examine the availability and extent of initialization of educational concessions, (iii) to study the attitude of teachers towards tribals students; (iv) to find out the causes for the high rate drop-outs among tribal students

Sample : 400 tribal families in Trivandrum district of Kerala State and 54 teachers from eight schools

Tools and Techniques : Interview and questionnaire
Major Findings:

(i) The heads of tribal families felt that the teachers did not show favourable attitude towards the education of tribal children. Educational concessions given to tribal children were inadequate; (ii) teachers perceived the tribal students as irregular in attending school. They were poor in vocabulary. Only a few were found to have adequate readiness for learning. They were found advanced in sports, games and arts even though they were backward in scholastics. (iii) poverty, lack of learning materials, language difficulty, lack of school facilities, inaccessibility of schools, ignorance of parents, task-master’s influence, child labour and parents’ compulsion were among the factors responsible.
Major Findings:

(i) The parents had a positive attitude towards education. (ii) More than 65 percent parents had a poor assessment of the capability of their children to benefit from education. (iii) A majority of the parents did not show much interest in the children because of their educational level being very low. (iv) The children had no facilities for studying at home. (v) The aspiration level of the students was lower than the average showing lack of clarity about their future. (vi) The students suffered from a feeling of difference. (vii) In spite of their poor sociological background, the students did not have a high level of feeling of rejection. (viii) The students of SC/ST had a rather clear image of their strengths and weaknesses and their perception of school was positive and better.

Title: Elementary Education in a Tribal Development Block

Author: N. Y Naidu and F. M Pradhan, National Institute of Rural Development, A. P. 1973

Objectives:

(i) to study the existing educational facilities in the scheduled tribal areas; (ii) to study the educational advancement of the tribals through physical presence of these institutions.

Sample: all the 93 elementary schools in the Kuarmurda block of Sundargarh district

Tools and Techniques: observation, informal discussions, official records. Percentages were used to analyse the data.

Major Findings:

(i) The average pupil strength of government arranged schools was 42 as against 103 of the missionary schools. (ii) The number of teachers were more in case of missionary schools. (iii) There was more interest in education among the
Christianized tribal than among the others (iv) Female education was formed to have a low priority in the rural and tribal areas (v) The majority of the teachers were non-tribals and Christian-tribal teachers In the case of missionary schools, most of the teachers were Christian tribals (vi) The Christian teachers evinced less interest in the education of the non-Christian students, whereas, the Christian teachers in the missionary schools were concerned with and devoted to the education of the Christian students only in their schools

(d)

Title: Study of Aided Elementary Schools of Srikakulam, Visakhapatnam, East Godavari and West Godavari Districts of Andhra Pradesh

Author: D.R. Pratap and C.C. Raju, Tribal Cultural Research and Training Institute, Hyderabad, A.P. 1973

Objectives: (i) to review the functioning of the aided elementary schools (ii) to assess the progress of these schools (iii) to review the financial position of the schools (iv) to review the arrangement of the schools (v) To assess the facilities available in these schools, and (vi) to spotlight the problem areas of the schools

Sample: randomly selected 31 tribal schools from the four districts of Andhra Pradesh

Tools and Techniques: Structured questionnaire for teachers, managers and local people; Mean and percentage were used to analyse the data.

Major Findings:

(i) The majority of the schools did not have adequate accommodation, teaching aids and furniture (ii) The general performance of the schools was found to be unsatisfactory. (iii) The schools treated as sources of income rather
Inadequate salaries, adverse living conditions, indifference of tribal parents made the teachers take little interest. Some of them did not even reside in the school villages and visited the schools occasionally. The economic status of the management was far from satisfactory and their financial position was unsound.

**Title**: Study of Ashram Schools in Tribal Areas of Andhra Pradesh

**Author**: D.R. Pratap, C.C. Raju and M.V.K. Rao, Tribal Cultural Research and Training Institute, Hyderabad, A.P., 1971

**Objectives**:

(i) to assess the performance of ashram schools in reducing wastage, stagnation and absenteeism among tribal children

(ii) to study the structures and functioning of ashram schools

(iii) to find out the financial implications of Ashram schools

(iv) to study the shortcomings, if any, in the programme

**Sample**: six ashram schools from districts; 120 parents and all teachers of the six schools

**Tools and Techniques**: Schedule for schools and questionnaire for parents and teachers. Mean and percentages were used to analyse the data.

**Major Findings**:

(i) Most of the schools were having non-tribal teachers. All of them were trained even though their general educational qualifications were low

(ii) The ashram schools did not have all facilities for extracurricular activities.

(iii) The curriculum was almost similar to that of other primary schools.

(iv) Economic and social pull factors like economic activities, domestic work, parent and student indifference, child marriages etc were found to be mainly responsible for the prevalence of wastage and stagnation in the ashram schools.
Title : Problems of Early Schooling of Tribal Children.


Objectives : (i) to study the rigidity and superstitions of the tribal parents affecting their children’s education (ii) to study the economic condition of the tribal families (iii) to study the facilities provided to the schools in the tribal areas (iv) to study the impact of industrialization on the tribal families and their attitude towards their children’s education (v) to study the tribal parents attitude towards the present system of education (vi) to study the adjustment problems of the tribal children in schools (vii) to study the tribal attitude toward the girls’ education and (vii) to study the circumstantial and incidental problems affecting the education of tribal children

Sample : 100 teachers in tribal areas and 100 tribal parents

Tools and Techniques : Case studies, chi-square test and t-test

Major Findings :

(i) 97 % teachers and 95 % tribal parents were of the opinion that superstitions and rigidity hindered the schooling of tribal children. (ii) About 95% of teachers and parents perceived the problem of girls’ education in tribal areas (iii) The medium of instruction was not a barrier in the early schooling of the tribal children (iv) Unproductive and traditional type of educational system for the tribals was the cause of the indifferent attitude of tribal parents towards education of their children (v) Voluntary and other agencies were more effective than the government in solving the multifarious problems of early schooling in the tribal areas. (vi) Lack of necessary facilities and equipment for teaching was the cause of lacking motivation among the tribals. (vii) Industrialization had affected the family life of the tribals thereby hindering early schooling of the tribal children.
Title: Ashram Schools in Bihar

Author: S. K. Bose 
Society for Studies in Political Economy, New Delhi, 1982

Objectives: (i) to examine the place of Ashram Schools as a subsystem in the total school system (ii) to assess the extent to which this segment had been able to fulfil the educational needs of the tribal population (iii) to find out the effectiveness with which these schools had operated in achieving their objectives, and (iv) to analyse the cost effectiveness of these schools

Sample: Ashram schools in three districts in Ranchi, Singhbhum and Santhal Paraganas districts in state of Bihar

Major Findings:

(i) These schools had very less impact because of their initial number. In terms of qualitative factors like curriculum, teaching methods and other physical facilities available they had not been able to fulfil the educational needs of the tribal population.  
(ii) The objectives for which they were established had remained largely unachieved.  
(iii) Their cost effectiveness was not different from others. Dropout rate was higher than that in non-Ashram basic school that was also studied  
(iv) Accounts were badly maintained and higher cost was due to the fact that the cost of boarding and lodging in Ashram schools was borne by the state.

Title: An investigation into the Adequacy of Panchayātraj Administration in the Tribal Development Blocks of Orissa

Author: K C. Sahu, Sambalpur University, Orissa, 1980
Objectives: (i) to study the adequacy of Panchayat raj Administration in tribal areas (ii) to determine the inter-relationship among the three variables, attitude, adjustment and efficiency of the extension officers, treating efficiency as the criterion variable and the other two as predictor variables

Sample: 262 extension officers

Tools and Technique: attitude scales, score cards and an adjustment inventory

Major Findings:

(i) The relationship between adjustment and efficiency was positive and significant. (ii) The extension officers had positive to central attitude towards the attitudinal objects. (iii) The officers were satisfactorily adjusted in different areas of work. (iv) The mean efficiency score was 63.6 which indicated considerable efficiency of subjects.

3.2.3 Tribal Studies abstracted from the Fourth Survey of Research in Education

(a)

Title: Effect of Sociocultural Deprivation on some cognitive and Noncognitive Abilities of Tribal Adolescents

Author: Balakrishna, Magadh University, Bihar, 1986

Objectives: to compare Christian and non-Christian tribal adolescents in terms of their verbal intelligence, reasoning ability, achievement motivation and vocational values

Sample: 300 Hindi-knowing male tribal students (150 Christian and 150 non-Christian) drawn from two schools of Santhal Paraganas
Tools and Techniques: Mohsin's General Intelligence test, Raven's standard Progressive Matrices test, Mukherjee's Sensitive Completion Test, Prasad's Inventory of Vocational values and Personal Data Schedule. Biseral correlation, t-test, chi square technique were used for analysis.

Major Findings:

(i) The Christian tribal students possessed more intelligence, better reasoning and higher achievement motivation than non-Christian tribal group
(ii) The Christian tribal group had higher aspiration and higher goals than non-Christian tribal group

Title: A comparative Study of various Naga Tribal pupils in relation to their Selfperception, Socio-economic Status, Vocational and Educational Aspiration and Academic Achievement

Author: J. Chand, North East Hill University, Meghalaya, 1985

Objectives: (i) to find out the differences in the self-perception of pupils belonging to three different tribal (ii) to find out the differences in self-perception among pupils belonging to high middle and low socio-economic status of the tribals (iii) to study the vocational choices and their reasons of three Naga tribals (iv) to study the academic aspirations of the pupils of the three tribals of different socio-economic status, and (v) to study the academic achievement of pupils of the three tribals of high, middle and low socio-economic status

Sample: 674 pupils (353 boys and 321 girls) of class IX drawn from 10 tribal high schools of 3 districts
Tools and Technique: Deo-Jogawar's Self-concept Inventory, a modified version of Kuppuswamy's Socio-Economic Status Scale and Kamat's Education Aspiration Scale. Newly developed vocational aspiration scale, a vocational prestige value scale and an achievement test in general science and mathematics. t-test was used to test various hypotheses.

Major Findings:

(i) The girls belonging to the three tribals were found similar on self-perception. (ii) Boys by and large were found to have significantly different vocational choices than girls in the respective tribes. (iii) The educational aspirations of boys differed significantly from those of girls in the respective tribes. (iv) The academic achievement of boys belonging to the three tribes was significantly different from that of girls in the respective tribes. (v) The girls belonging to three tribes were not found to differ significantly on academic achievement as such. (vi) There were differences in the preference of vocations according to SES.

(c)

Title: A Comparative Study of Concrete Intelligence of the Tribal and Non-tribal school Girls of Ranchi.

Author: P. Choudhuri and U. P. Sinha, The Bihar Tribal Research Institute, Bihar, 1959

Objective: to study the concrete intelligence of the tribal and non-tribal group of school girls

Sample: 50 tribal and 50 non-tribal girls

Tools and Techniques: Alexander's Pass Along, Cube construction and Block Design Tests. Means, SDs, t values, coefficients of correlation and variation etc. were computed.
Major Findings:

(i) There was basically no difference in the concrete intelligence of the tribal and non-tribal groups. (ii) At the earlier age level between 6 and 10, the tribal children exhibited less capability in exercising the power of mental analysis and synthesis than the non-tribal children, but later between 11 and 16 both the groups showed about the same degree of concrete intelligence in all aspects.

(d)

Title: Educational Development of Tribals of Nasik District

Author: N. L. Jadhav 14, Poona University, Maharashtra, 1983

Objectives: to undertake a historical study covering geographical and historical background of the tribals, their social, religious, cultural background, morals, economic backwardness and educational progress

Sample: 508 teachers, 768 students and 1022 selected citizens

Tools and Technique: Questionnaire

Major Findings:

(i) Lack of social atmosphere and difficulty in children's education were the important factors affecting the teachers' inclination to serve in tribal areas (ii) The teacher-student relationship was cordial (iii) Children and parents expected that actions be adjusted to seasonal requirements of the area. (iv) The syllabi of schools needed to be oriented towards the needs of the tribal. As such, elementary education needed to be imparted in the tribal language; the state language being gradually and steady introduced. (v) Tribals did not find the classes useful unless income-generating skills were taught to them. Cooperatives and employment guarantee schemes were effective in tribal areas.
Title: Case Study of Seven Tribal Area Schools

Author: R. Krishna Rao, Tribal Centre of Research and Training Institute, Andhra Pradesh, 1986

Objectives: (i) to assess the functioning of schools in the tribal area and positioning of teachers, their qualification, experience, and teacher-student ratio (ii) to find out teachers' and parents' attitude towards tribal children attending the school (iii) to assess the magnitude of wastage and stagnation (iv) to identify the problems faced by the teachers, and (v) to assess the socio-economic status of parents and their attitude towards teachers, children's education, employment, etc.

Sample: Seven Schools in Tribal areas

Tools and Techniques: School questionnaire, teacher's questionnaire, and parent's questionnaire case study approach, cohort method for assessing wastage

Major Findings:

(i) The parents of the children admitted their children in the schools at their personal initiate and also with the initiation of the teachers (ii) The holiday pattern and timings of the school were in tune with the education department rules and regulations (iii) Most of the parents stated that they had no problem with the teachers of the school (iv) Teachers opined that curriculum and medium of instruction were suitable for tribal students.
Title: The effect of Home Environment and Parenting Style on Some Personality Variables (A Study of Dis-advantaged Tribal Student Population of Madhya Pradesh)

Author: N K. Nagaich, Dr Harisingh Gaus Vishwa Vidyalaya, M P, 1986

Objectives: to investigate the effect of home environment and parenting style on seven personality variables among tribal students and students of Madhya Pradesh

Sample: 300 students of VI to VIII grades (200 tribals and 100 urban students)

Tools and Techniques: Home environment questionnaire by Jai Prakash, Parental Acceptance-Rejection questionnaire of Rohner translated in Hindi by Jai Prekash; ANOVA, t-test and Pearson’s coefficient of correlation were the statistical techniques used for data analysis

Major Findings:

(i) Home environment and parenting style were not found to be significantly related with each other  
(ii) The parenting style of tribal group was found to be markedly different from that of urban parents.  
(iii) Home environment in the tribal group was not found to differ significantly from that of the urban group  
(iv) The personality differed significantly irrespective of their home environment being healthy or poor  
(v) The subjects perceiving parental acceptance and rejection did not differ on personality dispositions in the tribal groups.
A Comparative Study of Concrete Intelligence of the Christian and non-Christian Munda School Boys and Girls of Khunti

H.R. Nomani

The Bihar Tribal Research Institute, Bihar, 1964

Objectives: to carry out a comparative assessment of concrete intelligence of Christian and non-Christian individuals with religion and sex as variables

Sample: 240 boys and girls between 9 and 16 years of age (60 Christian Munda boys, 60 girls, 60 non-Christian Munda boys and 60 girls)

Tools and Technique: Alexander’s Battery of Intelligence Test Means, standard deviations, standard errors of means, etc were computed t-test was applied and product moment coefficients of correlation between the subtests were computed

Major Findings:

(i) There was no significant difference in the concrete intelligence of the Christian and non-Christian boys and girls  (ii) Non-Christian boys were better on the Alexander’s battery than the non-Christian girls  (iii) There was no difference between the Christian boys and Christian girls on Alexander’s Battery  (iv) On the sub-test of Alexander’s Battery all the boys and girls were almost equally good. (v) The subtests were positively correlated.

Social-Psychological Study of Adjustment of the Adivasi Students

H.R. Nomani

The Bihar Tribal Welfare Research Institute, Bihar, 1965
Objectives : to study the adjustment covering family, health, social and emotional aspects of tribal students with sex and environment as the main variables.

Sample : 150 male and 50 female students selected at random from different colleges and schools of Ranchi and Simdega.

Tools and Technique : Bell’s Adjustment Inventory. A t-test was applied to test the significance of differences.

Major Findings :

(i) There was no significant difference in the adjustment of males and females.

(ii) A significant difference was found in health adjustments.

(iii) College boys were superior to the school boys in respect of family adjustments.

(iv) Social adjustment in general was not satisfactory.

Title : A study of Cognitive Process and Motivational Patterns of Deprived Students in relation to their Achievement

Author : Kalpalata Pandey, Allahabad University, U P, 1985

Objectives : (i) to find out the difference in cognitive process, motivational patterns and achievement of high and low deprived students.

(ii) to find out the differences in cognitive process, motivational patterns and achievement of deprived boys and girls.

(iii) to find out the relationship between cognitive process and achievement of high and low deprived students, and

(iv) to find out the relationship between motivational patterns and achievement of high and low deprived students.

Sample : 600 students ranging from 12 to 14 years. 100 high and 100 low deprived students were selected from the sample of 600 students.
Tools and Techniques: Verbal Reasoning and Numerical Ability Tests by J M Ojha, the Preadolescent level of Aspiration Test by Uday Pareek and the Swatva Bodh Pankshan by G P Sherry, et. al., A deprivation Scale, Academic Anxiety scale and three achievement tests constructed by the investigator were also used. The Kolmogorov-Smirnov Two Sample Test and Spearman Rank Correlation with tied observations were used to arrive at conclusions.

Major Findings:

(i) Low deprived students scored significantly higher than high deprived students on verbal reasoning ability, concept formation, intellective performance, level of aspiration and self-concept variables. They also performed higher in social studies, science and Hindi in comparison to high deprived students  (ii) It was found that, except for the self-concept and achievement in Hindi, high deprived boys and girls didn’t differ significantly. (iii) High deprived boys possessed a significant relationship between achievement in social studies science, Hindi and concept formation ability  (iv) Level of aspiration was found to be significantly correlated with social studies achievement for both boys and girls in the case of low deprived as well as high deprived group  (v) It was found that academic anxiety lowered achievement in social studies among high deprived girls, in science among low deprived boys, and in Hindi among high deprived boys and low deprived girls.

(j)

Title: Social Aspects of Academic Achievement and Aspirations of Scheduled Tribe Students


Objectives: (i) to analyse the socio-cultural factors which determined the academic achievement of scheduled tribe students  (ii) to find
out their academic aspiration and to analyse them in the context of socio-cultured background (iii) to analyse their occupational aspirations in the light of their academic aspirations and achievement cultural background (iv) to identify teacher-taught relationship and analyse it in the context of tribal students’ socio-cultured background and (v) to identify interaction patterns among tribal and non-tribal students and to analyse them in the context of tribal students academic achievement and social environment

Sample : 250 schedule tribe students studying in high schools, intermediate and graduate classes

Tools and Technique : Interview schedule, Statistical analysis was done by calculating percentage and by applying chi-square test.

Major Findings

(i) The gap between school environment and family background, poor economic conditions, negative interaction patterns between non-tribal and tribal students were responsible for low academic achievement of tribal students. (ii) The teacher-taught relationship in class and out of class was not very congenial. Teachers showed indifference to tribal students. (iii) The analysis of occupational aspirations revealed that their selection-area was becoming gradually more extended, variegated and modernised.

(k)

Title : Academic Achievement in relation to Cognitive and Personality Differentials of Socially Dis-advantaged and Advantaged Secondary School children of Orissa

Author : D Patel 21, Punjab University, Punjab, 1987

Objectives : (i) to compare the cognitive and personality differentials of the disadvantaged and advantaged secondary school children
(ii) to find out the nature of extent of the relationship between academic subjects like English, Oriya, Hindi/Sanskrit, Mathematics, general science, history/civics, geography and total achievement with intelligence, self concept, creativity, teacher estimation and achievement motivation (iii) to find out the best predictors of each academic subject i.e. English, Orissa, History/Civics, geography and total achievement from among independent variables of intelligence, self-concept, creativity, teacher estimation and achievement motivation

Sample : 270 students (140 boys and 130 girls which had an equal number of scheduled caste, schedule tribe and advantaged children with an age range of 13 to 15 years,

Tools and Techniques : The Wallach and Kogan Test of Creativity (1965); the Cattel Culture Fair Test of Intelligence (1965); the Deo Personality Word List (1971), the Stroop Colour word List (1935); the Mohan Achievement Motivation Test (1971); the Utkal University Child Behavior Rating Scale (1979) and the students Aspiration for Education and Occupation Interview Schedules

Major Findings :

(i) On all the variables related to academic achievement i.e. intelligence, self-concept, creativity, teacher estimation, linguistic competence and achievement motivation, the advantaged children scored significantly higher than the scheduled caste and schedule tribe children. (ii) All the three groups differed significantly in their aspirations regarding education, occupation and income. (iii) The language subjects were positively and significantly correlated with all variables except creativity, emotional aspects, in case of all groups. (iv) The subject Sanskrit was positively correlated with perceived social self and social aspect of teacher estimation in case of SC and ST groups. (v) The academic subject mathematics
was positively correlated with intelligence and achievement motivation in the case of the scheduled tribe group but in the case of the advantaged group it was significantly related with intelligence and self-concept. (vi) The subject general science was positively correlated with intelligence and creativity and the motivational aspect of teacher estimation. (vii) Total achievement was positively related with creativity and teacher estimation in the scheduled tribe group. (ix) In case of scheduled tribe children, all the independent variables i.e. intelligence, self-concept, creativity, teacher estimation and achievement motivation contributed significantly towards prediction of achievement in each academic subject i.e. English, Oriya, Hindi/Sanskrit, mathematics, general science, History/Civics, geography and total achievement.

(L)

Title : A study of Certain Behavioral and Personality Concomitants Associated with Socio-economic Deprivation

Author : P. Roy, Burdwan University, W. Bengal, 1986

Objectives : to compare two groups - socio - economically, deprived and privileged in respect of, (i) achievement (ii) Intelligence (iii) adjustment to school regulations (iv) adjustment to instructional programmes (v) adjustment to peers in school (vi) adjustment to personal hygiene rules (vii) language development (viii) perceptual acuity (ix) perceptions of forms, shape and size, (x) perceptual distortion (xi) relationship with siblings and parents (xii) nature of ego and superego (xiii) perception of environment (xiv) anxiety, needs, conflicts and defences

Sample : 200 urban and rural children of class V within age range of 10-12 years - hundred each from economically deprived group and privileged group
Tools and Techniques: Socio-economic Deprivation index Questionnaire, Achievement records from school, Cattel's Culture Fair Intelligence Test, a Rating Scale for measuring four adjustment variables by Roy and Chakraborty and a Children's Apperception Test

The two-tier analysis comprised of t, chi-square test at the univariate level and discriminant analysis at the multivariate level

Major Findings:

(i) The two groups differed significantly in respect of all the variables except one i.e. relationship with siblings. (ii) Adjustment to instructional programmes appeared to be the single variable that discriminated the two groups to a maximum extent. (iii) Altogether eight variables were found to be good discriminators. They were (a) adjustment to instructional programmes (b) intelligence (c) oral need (d) perception of forms, shape and size (e) acuity of perception (f) perception of environment (g) perceptual distortion (h) adjustment to personal hygiene rules. (iv) There was definite socio-economic bias in the sociometric structure of the students.

3.2.4 Other Studies carried out in India

(a)

Title: Concept of Speed A Training Study

Author: Updesh K. Bevli ²³, Burdwan University, W. Bengal, 1986

Objective: to investigate into the effect of specially devised training on learning the Concept of Speed

Variables:

(a) independent: (i) Age: (a) 6 + (b) 9 + (ii) Schools (a) Modern (Urban Advantaged Group (b) Corporation (Urban Disadvantaged
Group) (iii) Training Groups: (a) Group I trained in length concept (b) Group II trained in time concept (c) Group III trained in length and time concept (iv) Group IV control group

Tools and Techniques: A Pretest - Training - Post -Test - Control Group Experimental Design (Campbell, Stanley, 1965). There were three training sessions each of 30 minutes duration. Pre-and post -tests took 20 minutes each. A factorial type of analysis on the basis of mean gains was conducted to get an overall picture.

Sample: 268 Children (123 from Modern School, 145 from Corporation School)

Major Findings:

(i) Both stage and the age at which a child was, had been a very important factor for the training to be effective. (ii) Training brought about an all-round improvement in the quality of responses in both types of schools. (iii) Concept of time seemed to be an important concept in learning the concept of speed. (iv) For the best outcomes, the concepts of length and time should be taught with a considerable temporal gap to avoid the retroactive effect of two sets of learning. (v) The overall performance of the Advantaged Group was better than the Disadvantaged Group. (vi) For any successful teaching - learning situation, the following aspects should be considered: (a) Cognitive status of the learner (b) the structure and language symbol of the task (c) the instructional practice employed, and (d) the mechanism involving information processing.

(b)

Title: Study of Discrimination, Seriation and Numeration Operations in Young Children

Author: S. Narayana Rao

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Objectives: (i) to study effect of schooling on the discrimination, seriation and numeration operations (ii) to study the stage sequence in the order and development of discrimination, seriation and numeration operations, (iii) to study effect of perceptual cues like dimensionality available to subjects on discrimination, seriation and numeration operations, (iv) to examine effect of age difference on the development of discrimination, seriation and numeration operations in them.

Sample: 576 children from Tirupathi, Andhra Pradesh (equally divided in school/non-school going, sex and age groups)

Tools and Techniques: Materials used in the tasks were single dimensional sticks, two dimensional slats and three dimensional wooden blocks. For each of the operation there were four tests. After testing the data for homogeneity using Bartlett's test, the data were analyzed by ANOVA.

Major Findings:

(i) The F-ratio (31.9) significant at 0.01 level for discrimination, seriation and numeration—suggested that there were significant differences in the performance of the subjects on the different operations. (ii) Discrimination, seriation and numeration, operations appeared in that order Children were able to discriminate successfully by the time they reached 4 years of age. Seriation was mastered between 5 to 6 years of age and numeration was seldom attained before 7 years of age (iii) Differences owing to school became apparent with regard to seriation and the differences were not pronounced with numeration (iv) The performance of non-school going students was poor at all the age levels (v) The dimensionality of materials affected discrimination, seriation and numeration operations positively. Children were able to perform the operations better when more perceptual cues were available to them. (vi) Schooling appeared to play a significant role in helping the growth of mental structures underlying integration of several salient stimulus factors successively and simultaneously.
Title: Culture, Schooling and Cognition: Cognitive Development of Tribal and Non-tribal Schooled and Un schooled Indian Children

Author: A. Srikanta Dash and Rama Das

Objectives:
(i) to study the development of Piagetian logico-mathematical abilities of non-tribal and tribal children
(ii) to study the effects of schooling on Piagetian Logico- mathematical abilities of non-tribal and tribal children
(iii) to study whether the impacts of culture on schooling being similar on younger and older non-tribal and tribal children

Sample: 160 rural children - half from tribal and other half from non-tribal background. In each category, half the number of children were from schooled and unschooled category. Further there were equal number of children from each of age groups of 4, 5-7-years.

Tools and Techniques:

(I) Classification tasks
(1) Dichotomous Sorting (DS)
(2) Cross Classification (CC)
(3) Class Inclusion Task (C.I)
(4) Multiple Class Membership (M.C.M)

(II) Seriation tasks:
(5) Absolute Seriation (Ab S)
(6) Relative Seriation (R.S)
(7) Successive Seriation (S S)
(8) Additive Seriation (Ad S)
(9) Serial Correspondence (S.C.)
(10) Double Seriation (D S)
(III) Measurement tasks.

(11) Length Comparison (LC)
(12) Distance via Reference Length (D R L)
(13) Distance via Units (D.U.)
(14) Height via Reference Length (H.R.L.)
(15) Area via Units (A.U.)

(IV) Conservation Tasks

(16) Number
(17) Length
(18) Discountinuous Length
(19) Substance
(20) Area

Major Findings:

(i) Cultural variations were present only in younger group (4-5 Yrs) In most of the tasks, the frequencies of older children (6-7 Yrs) of both the tribal and non-tribal groups at stage III were the same indicating that with regard to 6-7 year old, very little cultural difference could be found.

(ii) Schooling was found to be a facilitating factor in the development of cognitive abilities in most of these tasks except conservation, particularly for older children.

(iii) Non-schooling seemed to have a greater adverse influence on the development of cognitive abilities of non-tribal children than that of tribal children.

(iv) The growth of conservation ability in children was found to be influenced by neither culture nor schooling.

(d)

Title: Fostering Cognitive Development in First Standard Pupils

Author: T. Padmini 26

Objectives: (i) to develop a programme for fostering Cognitive development in first standard pupils and try it out under adequately rigorous
experimental conditions (ii) to assess the effectiveness of such a specially designed activity programme in fostering cognitive development in primary school entrants.

Sample: 120 pupils of grade I from five primary schools in Mysore city. Control group and experimental group were formed in each school by random choice.

Tools and Techniques: Mysore Cognitive Capabilities Test (MCCT) for assessing cognitive development status, Wechsler Intelligence Scale for children (WISC) for measuring intelligence, Kuppu Swami’s Socio-economic Status Scale for assessing SES and school examination results for assessing academic achievement. Solomon Four Group Design was adopted for the experiment. The two-way ANOVA and ANCOVA analysis were used for testing hypotheses.

Conclusions:

i. There was a statistically significant but low moderate positive correlation between CDS (Cognitive Development Status) and achievement. In primary school, programme did not facilitate maximal cognitive development in children.

ii. There was no pre-test sensitization favouring greater gains from the special action programme.

iii. Both the groups moved towards a higher CDS between pre-test and the post-test. However the quantum of gains in CG (Control Group) was very low as compared to that of EG (Experimental Group). These were confirmed by ANCOVA of CDS scores vis-a-vis treatment in which the F ratio value of 26.28 was found to be significant beyond 0.01 level. So the overall cognitive capability can be strengthened through purposeful efforts in that direction.
Sex differences were not significant in respect of CDS gains of EG.

Similarly differences by age and by initial status in respect of CDS gains were not significant.

There was a highly significant SES effect on CDS in general. The higher the SES, the higher would the CDS tend to be. This is consistent with the finding on dependence of cognitive development on one's cultural milieu. However, there were no significant differences in CDS gains achieved by EG. The main difference between the two findings was that the former was concerned with CDS as obtained in the normal process of development whereas the latter was concerned with the gains achieved as a result of participation in the special activity programme.

Differences in CDS gains of EG in relation to intelligence were significant at 0.05 level, whereas differences by treatment were highly significant (beyond 0.01 level), but the effect of interaction between the two was not significant. So it tells that higher the intelligence, the more would be the CDS gains from a special activity programme.

Institutional differences in respect of CDS gains were not significant.

There was significant relationship between CDS and academic achievement. So by promoting cognitive capabilities one could help in raising academic achievement.

(e)

Title: Conceptual Development of Punjabi Children. A Review

Author: Paul A.S Ghuman 27

Objectives: To apply the Piagetian perspective to explore the conceptual development of Punjabi children belonging to different subcultural strata
Sample: Ninety-six boys and girls (in equal numbers) were randomly selected from four rural and two urban schools (ages 10-11 years). They belonged to the following sub-cultures:

Group 1. Professional Class (derived from Brahmins and Kshatriyas)

Group 2. Brahmins and Kshatriyas (engaged in shop-keeping and other skilled jobs)

Group 3. Jat Sikhs (Vaish, engaged in farming)

Group 4. Harijans (mainly farm hands)

Tools and Techniques: Conservation problems (Length, Amount, Area and Weight) Coloured progressive Matrices and WISC Block design.

Major Findings:

(i) Group 4 was significantly poorer in its performance. The other three groups did not differ significantly. The difference was very marked on conservation of weight test. The high success rate (groups II and III), was mainly due to their background and experience. Children of farmers and artisans learnt skills of measuring, weighing and storing things as part of their daily activities. (ii) They did not perform well on the conservation of area test. In this, unlike the conservation of weight no action model was available; therefore, they were required to perform some form of mental transformation. (iii) Children in the non-professional groups did not do well on the number test. (iv) Piaget’s model was extremely useful in assessing Punjabi children’s ability. (v) Cultural and sub-cultural factors played an important part in cognitive development. (vi) Performance on Piagetian tasks was significantly related to previous experience of the pupils.
Invariance of Mass and Number Among Tribal and Non-tribal children

Durganand Sinha and Tantreshwar Jha

To analyse some of the factors like age, sex, cultural differences and rural/urban background other than pure which maturational operated in the acquisition of conservation ability of mass and number

Sample: 240 children; 10 each from 24 sub groups age (4-5, 7-8, 9-10 years), sex, culture (tribal and non-tribal) and habitation (rural and urban) - 3×2×2×2 design

Tools and Techniques: For conservation of mass, clay balls (250 gm.) were used and for number conservation, fourteen 1″×1″ wooden cubes were utilised. Each subject was asked ten questions. In the first question whether or not the subject had understood the problem was ascertained. The remaining nine questions pertained to finding out subject's judgement, prediction and explanation with regard to the task.

Major Findings:

(i) No sex differences in scores were obtained. (ii) With age, the frequency of full conserves of mass and number tended to go up. (iii) There was a marked difference between the tribal and non-tribal children. Among the non-tribals there were slightly higher percentage of full conserves. (iv) There were greater number of full conserves on mass among urban children among both the tribal and non-tribal groups. (v) The sample seemed to lag behind somewhat in the attainment of number concept as compared to that of mass. (vi) Though there was a general tendency for conservation ability to develop with age, the age-levels at which it came to full fruition differed in different cultures.
and under varying environmental circumstances. Maturational level alone was not sufficient to explain these response variation

(g)

Title : The Himalayan Mountain children : Their performance on selected Piagetian tasks

Author : V. Kalyan Masih 29

Objectives : (i) to investigate the performance of 3-6 year old children on selected Piagetian tasks related to sex, age, and income level. (ii) to study the appropriateness of Piagetian model for reflecting the cognitive performance for the selected age range

Sample : A sample of 76 subjects selected from two local schools (27 boys and 39 girls)

Age group 1 (36-45 months) - 20 mean age 42.8 months
Age group 2 (45-57 months) - 25 mean age 52.3 months
Age group 3 (60-67 months) - 31 mean age 64.3 months

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Economic level 1 (Rs 9,600 - Rs 20,000) - 35
Economic level 2 (Rs 3,400 - Rs 9,600) - 41

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Tools and Techniques : The following tasks, using toy-type materials, were individually administered in Hindi or Punjabi. Left - Right, Conservation of Mass, Conservation of Length, Relations Task, Draw a House - Tree-Task, Conservation of Number

A three way ANOVA : Age (2) × Sex (2) × Income (2) and subsequent Duncan’s multiple range tests treated the data for significant differences (For ANOVA : Age groups : 36-54 months old and 56-67 months old children)
Title: "Failure on Piagetian Tasks: Misinterpretation of the Question?"

Author: R. Gold, 1986

Objectives: to study the effect of class inclusion task and between-sets task on children

Variables: Class-inclusion task, between-sets task

Material: Toy animals - horses, cows, pigs and sheep-painted either black or white

Sample: There were 60 boys and 72 girls ranging in age from 60 months to 119 months.

Procedure: Each child received two trials of each task. Half the children received the tasks in one order, the other half in the other order, e.g.: Between-sets "Are there more black horses or more cows?", Class-inclusion "Are there more black horses or more horses?"

Statistical Techniques used: Non-parametric statistics and McNemar test

Major Findings:

(i) The McNemar test indicated that the between-sets task was significantly easier than the class-inclusion task
(ii) There were no sex differences.
(iii) In case of 5 and 6 year old children, there were no order effects, whereas in 8 and 9 year old children, there was an order effect on the class-inclusion task only
(iv) The class-inclusion task posed the child greater problems than did the between-sets task.
Major Findings:

(i) Whites showed an overall superiority at all comparable social class levels. (ii) Black children had the greatest skill in the verbal area compared with their scores in other areas. They performed least well in the numerical area. Their reasoning and spatial scores were better than their numerical scores but were not as high as the verbal scores.

3.4 HOW THE PRESENT STUDY DIFFERS FROM OTHER STUDIES

Sachchidananda observed, “The first contribution to the study of the educational problems of scheduled tribes in India was made as early as 1944 by Professor Furer - Haimendorf (Indian Journal of Social Work, 5,2, September 1944).............. This was the first time it was pointed out that an educational programme for tribals has to be in consonance with their habitat, economy and culture”

After five decades, the recommendation has not been even partially fulfilled. Many researches on the tribal children had been undertaken, thenceforth. The acceleration in such tribal studies has been quite obvious after the Kothari Commission report (1966). These studies were pertaining to socio-cultural deprivation, some psychological variables, comparative study of tribals and non-
tribals, educational development, ashram schools, wastage and stagnation, tribal educational problems, etc.

The present study, though primarily a survey type, is a major correlational study having two measures of cognitive growth and development as a dependent variable and twelve (personal, psychological, social and teacher-effectiveness) independent variables. Almost in most of the states in India, "Piagetian tasks" has been included as a dependent variable in tribal studies. It has been for the first time in Gujarat that "Piagetian tasks" has been undertaken as a variable, in this study. So far as the little knowledge of related literature the present investigator has gained during this study, it has been for the first time in India that separate cognitive tests of nonverbal (for grades I and II) and verbal (for grades III and IV) type have been newly developed and used on tribal children. Thus, to study the cognitive growth and development of tribal children studying in grades I to IV, seven Piagetian tasks (length, number, mass, volume, seriation, area and weight) were included and four separate subtests of cognitive ability test were developed. In analysis, however, composite scores of both the measures were used.

In selecting sample, the present investigator had tried her best to cover all the tribal areas of Gujarat State. Both types of Cognitive ability tests, Draw-a-man test, Visual Recall (immediate and delayed) test, newly developed twelve Achievement tests (Gujarati, Mathematics and Environment) for pupils of grades I to IV were administered to the total sample of 829 subjects. For the correlational study, the randomised sample of 182 subjects was drawn from the total sample of 829 subjects.

It seems that it has been the first time that canonical analysis technique has been applied in an educational study, atleast in the state of Gujarat.
3.5 **SALIENT FEATURES OF THIS STUDY**

Salient features of this study are:

i. first of its kind on Gujarati Tribal Children

ii. moderately large number of pupils from the whole state

iii. development of Cognitive Ability Tests—two types (verbal and non-verbal)

iv. development of 12 Achievement Tests for grades I to IV

v. two different measures of a dependent variable taken up

vi. twelve different independent variables taken up

vii. canonical analysis technique used for the first time in an educational research, in the state of Gujarat
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