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CONSERVATION PERFORMANCE AND SCHOLASTIC ACHIEVEMENT OF TRIBAL AND NON- TRIBAL STUDENTS IN RELATION TO SCHOOL BACKGROUND

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Abstract:

The main aim of this paper is to conservation, performance and scholastic achievement of tribal and non- tribal students in relation to school background. The sample of the present study was obtained in two different phases. In the first phase 8 (eight) different schools (2 English medium central schools & 6 Kannada Medium Govt. Schools) from Mysore District of Karnataka were purposively selected taking into account the availability of tribal and non-tribal students. "The conservation task on Mass, Volume & Weight" developed by Piaget & Inhelder (1941) tool was used. Tribal non-tribal variable is found to be a significant factor to influence the conservation performances of students on mass, volume, weight and total conservation. The non-tribal students are significantly better than the tribal students in respect of all the conservation tasks.

Key Words: Tribal and non-tribal students, School background, Performances

1. Introduction:

Cognitive development occupies the central position of all the psychological developments as it influences academic, social, moral and almost all the aspects of human life. People working in the field of child development and child psychology are deeply concerned with the optimum development of cognitive abilities and factors affecting it. Mukharjee (1978), Shukla (1980), and Anandlaxmi (1982), have studies that socio-economic status has significant effect on the cognitive development of child. Studies have shown that sex is not a factor to determine cognitive development (Mukharjee, 1978; Shukla, 1980; Jha, 1981). Muralidharan & Banarjee (1974) found that children of primary schools having pre-schooling background are significantly better in cognitive development than the children of primary schools without pre-schooling background.

Researches on different aspects of cognitive development among tribal and non-tribal students have been conducted with the hypothesis that a significant difference exists between them because tribals are isolated from the main stream of the society. Jha (1981) found that tribal and non-tribal children do not differ significantly on the acquisition of different conservation tasks. Padhy (1986) suggested that ethnic background is not effective with regards to conservation. In contrast Shukla (1980) had revealed that on conservation in mass, volume and weight, tribal students are lower than non-tribal students. So also Deshpande (1984) had studies that the mean scores of non-tribal students are significantly higher than those of tribal students on all the cognitive tasks. In view of such contradictions cognitive development of tribal and non-tribal students with reference to their school background is investigated in the present study.

2. Objectives:

a. To ascertain if tribal and non-tribal variable affects the conservation performances in mass, volume and weight differently.

b. To ascertain if different school backgrounds (i.e. english medium central school and Kannada medium govt. school) affect the conservation performances in mass, volume and weight differently.

c. To find whether tribal non-tribal variable in combination with school background affect differently the conservation performances in mass, volume and weight.

d. To study the direction and extent of relationship between conservation performance and scholastic achievement in cases of Tribals, Non-tribals, English Medium Central School Students (ENCSS) & Kannada Medium Government School Students (KMGSS).

3. Hypotheses:

a. Tribal non-tribal variable affects conservation performances in mass, volume and weight differently. Non-tribal students perform better than the tribal students on conservation of mass, volume and weight.

b. School background affects the conservation performances in mass, volume and weight differently. English Medium Central School Students (EMCSS) perform better than Kannada Medium Govt. School Students (ONGSS) on conservation of Mass, Volume & Weight.

c. Tribal non-tribal variable and school background interact to influence the conservation of mass, volume and weight.

d. A positive and significant relationship exists between conservation performance and scholastic achievement in the cases of tribals, Non-tribals, E.M.C.S.S. & O.M.G.S.S.

4. Description of Variables and design of the study:

In the present study conservation performances and scholastic achievement are taken as dependent variables whereas School Background and tribal non-tribal variables are independent. The study is conducted upon Class-VI students of the age group 11 (eleven); who are in the stage of Concrete Operation according to Piaget's theory of Cognitive development. Conservation performances on cognitive tasks are the basic characteristics of this stage (Piaget, 1941). Hence conservation performance is operationalised taking the conservation of Mass, Volume and Weight into account.

Scholastic Achievement refers to the marks scored by the students in their school examinations. Taking the academic performance of the students in three successive examinations and finding out the average score, each student is assigned a particular mark which is here understood as one's Scholastic Achievement.

Students from English medium central schools and Kannada medium government schools are taken to represent the variable-School Background.

4.1. Sample:

The sample of the present study was obtained in two different phases. In the first phase 8 (eight) different schools (2 English medium central schools & 6 Kannada Medium Govt. Schools) from Mysore District of Karnataka were purposively selected taking into account the availability of tribal and non-tribal students. In these 8 schools 125 Class-VI tribal students (100 K.M.G.S.S. & 25 E.M.C.S.S.) and 190 Class-VI non-tribal students (100 E.M.C.S.S. & 90 K.M.G.S.S.) were there. In the second phase on the basis of proportional

representation of both school background and tribal non-tribal variables 40 tribal K.M.G.S.S., 10 tribal E.M.C.S.S., 40 non-tribal E.M.C.S.S. and 35 non-tribal K.M.G.S.S., were randomly selected by means of stratified sampling. As a whole 125 students representing both variables were the samples of the study.

4.2. Tools Used:

To study the conservation performance of Class-VI students, who are at the stage of concrete operation, "The conservation task on Mass, Volume & Weight" developed by Piaget & Inhelder (1941) was used. The items of the task measure identify level, prediction level, judgment level and explanation level of conservation of mass, volume and weight. Further to know the scholastic achievement of students their academic performances on last three successive school examinations were taken into account. Obtaining everyone's average performance each student was assigned a mark which regarded as scholastic achievement.

4.3. Statistics Applied:

The mean and SD of the sample on conservation performances in mass, volume and weight were computed. To study the independent and interaction effect of school beak ground and tribal non-tribal variables on conservation performance, and to know the direction and extent of relationship between conservation performance and scholastic achievement, two way analysis of variance and coefficient of correlation were applied as the respective statistical techniques.

Table-1: Mean & SD of Non-Tribal and Tribal Students on Conservation Tasks

Sl. No.	Conservation Tasks	Non-tribal (N=75)		Tribal (N=50)	
		Mean	SD	Mean	SD
1	Mass	3.25	0.72	2.00	1.02
2	Volume	2.80	0.91	1.44	0.92
3	Weight	3.32	0.72	2.00	1.13
	Total	9.57	1.55	6.00	2.72

Table-2: Mean & SD of English Medium Central School Students (EMCSS) and Kannada Medium Government School Student (KMGSS) on Conservation

Sl. No.	Conservation Tasks	EMCSS (N=50)		KMGSS (N=75)	
		Mean	SD	Mean	SD
1	Mass	3.42	0.73	2.40	0.99
2	Volume	2.92	0.92	2.00	0.77
3	Weight	3.24	0.78	2.20	0.99
	Total	9.86	1.15	6.67	1.47

Table-3: Tribal Non-Tribal (TNT) And School Background (SB) On Conservation Performance (ANOVA Table)

Sources	df	SS	MS	`F' ratio
Conservation of Mass				
TNT	1	13.07	13.07	7.02*
SB	1	90.51	90.51	48.66*
TNTX SB	1	24.08	24.08	12.94*
Within	121	225.51	1.86	
Conservation of Volume				
TNT	1	12.80	12.80	16.41*
SB	1	28.81	28.81	36.94*
TNTX SB	1	6.13	6.13	7.86*
Within	121	94.31	0.78	
Conservation of Weight				
TNT	1	36.74	36.74	44.27*
SB	1	50.18	50.18	60.45*
TNTX SB	1	17.11	17.11	20.61*
Within	121	100	0.83	
Total Conservation				
TNT	1	271.20	271.20	74.71*
SB	1	305.92	305.92	84.28*
TNTX SB	1	73.31	73.31	20.19
Within	121	438.80	3.63	

*Significant at 0.01 level.

Table-4: Tribal Non-Tribal (TNT) and School Background (SB) on Conservation Performance (ANOVA Table)

Sl. No.	Groups	df	'r'
1	Tribals	48	0.53*
2	Non-tribals	73	0.46*
3	EMCSS	48	0.54*
4	KMGSS	73	0.42*

*Significant at 0.01 level

5. Findings

a. Tribal non-tribal variable is found to be a significant factor to influence the conservation performances of students on mass, volume, weight and total conservation. The non-tribal students are significantly better than the tribal students in respect of all the conservation tasks.

b. School Background is a significant factor to determine the conservation performances of students on mass, volume, weight and total conservation. The EMCSS are significantly higher than the KMGSS on all the conservation performances.

c. Tribal non-tribal variable and school background have joint effect to affect the conservation performances of students on mass, volume, weight and total conservation. The non-tribal EMCSS are significantly better than the tribal KMGSS on all the conservation tasks.

d. A positive and significant relationship exists between conservation performances and scholastic achievement in case of all the groups, i.e. tribals, non-tribals, EMCSS & KMGSS.

6. Discussion and Conclusion:

The present study which set out to test empirically the hypothesis that tribal non-tribal variable affects the conservation performances in mass, volume and weight differently, demonstrated that it is so, and it is also proved that non-tribal students are significantly better than tribal students on all the conservation tasks. Such a result became similar with the studies of Deshpande (1984) and Shukla (1980). Further, studies had shown that the socio-economic status determines cognitive development (Anandlaxmi, 1982; Shukla, 1980; Saddique, 1979; Mukharjee, 1978). It is a fact that, in general, the socio-economic

condition of non-tribals is significantly better than the tribals. From such propositions logically it can be concluded that the cognitive development of non-tribals is significantly better than their counterparts.

The second hypothesis that school beck ground affects conservation performances in mass, volume and weight differently is supported. The EMCSS are significantly better than KMGSS on all conservation tasks. It may be due to the fact that EMCSS have more sense of independence and get better exposure which help them to think analytically in solving the complex, logical and analytical problems. Further another fact is that all the EMCSS had pre-primary schooling background which has helped them for the development of their cognitive abilities, where as KMGSS did not have pre-primary schooling background. Muralidharan and Banarjee (1974), found out that children of primary schools having pre-schooling background are significantly better in cognitive development than their counterparts. Stating this study, the result of the present study can be validated. Further the finding of better conservation performance of EMCSS supports the findings of Padhy (1986), Banga (1980); and Sandeep (1979).

The next hypothesis that there is difference in conservation performance on mass, volume and weight in terms of interaction effect of tribal non-tribal variable and school background is accepted. It was found out that the non-tribal EMCSS are significantly better than tribal KMGSS on conservation performances. Lastly while studying the relationship between conservation performances and scholastic achievement, it was revealed that a positive and significant relationship exists between them in case of all the groups of subjects. As the conservation performances, so the scholastic achievement. Better conservation performance requires logical thinking, problem solving ability and intelligence which are also required for better scholastic achievement. Because of these common factors associated with conservation performance and scholastic achievement, the relationship was found positive and significant. Further, Amin (1982) had stated that positive relationship exists between conservation performance and intelligence. Again it is a fact that intelligence and scholastic achievement are positively correlated. Hence it is obvious and quite logical to conclude regarding the positive relationship between conservation performance and scholastic achievement. The present finding also supports the study of Nanda and Pal (1994).

To sum up it may be stated that tribal non-tribal variable and school background independently and in combination affect the conservation performances of students

differently. Further conservation performance and scholastic achievement are significantly related. These findings may have implications for the teaching learning process. In the preparation of curriculum for cognitive development, such findings may be taken into consideration. The teachers may keep these findings in mind while dealing with the students for the development of their comprehension.

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