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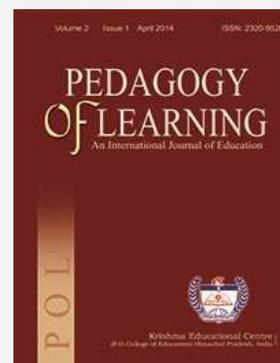
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## **Effect of Early Childhood Education on Language Development of Elementary School Children Belonging to Scheduled Tribe: How Long does the Effect Last?**

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### **Abstract**

The present study has sought to answer if early childhood education has any significant effect on language development in scheduled tribe children studying in elementary schools and how long the effect persists. The study revealed that i) early childhood education had significant positive effect on language development of the elementary school children studying at different grades, ii) scheduled tribe culture retarded language development of the elementary school children studying at different grades, iii) there was delaying long term positive effect of early childhood education on language development of the elementary school children, iv) language development was better in case of scheduled tribe children with early childhood education than non-scheduled tribe children without early childhood education at grade III and V, v) language development was better in case of non-scheduled tribe children with early childhood education than scheduled tribe children without early childhood education at grade II and V, and vi) non scheduled tribe children with early childhood education had better language development than scheduled tribe children with early childhood education studying at grade V.

**Keywords:** Early childhood education, language development, scheduled tribe children

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## **I. INTRODUCTION**

Early childhood period is a sensitive period marked by rapid transformation in physical, cognitive, language, social and emotional development. It represents a window of opportunity for a life time development of a person. It is widely recognised that early childhood education is an integral part of elementary education that represents the first and essential step in achieving the goals of education of education for all in particular and human skill formation in general ( Cunha, 2006; Henchman, 2003; Currie, 2001; Goodman and Sianesi, 2005). It enhances children's readiness for schooling and has a positive and permanent influence on later schooling achievement (Carneiro, 2006). The human capital argument also stresses that there are multiple important skills, both cognitive and non-cognitive and that for some of those skills (most notable on the cognitive side) investment at a early period of a person plays crucial role and inadequate early investments are difficult and costly for remedy later on (Woessmann, 2006).

## **II. RATIONALE OF THE STUDY**

Meta-analysis results showed average initial effect of early childhood education on cognitive abilities and socio-emotional outcomes ( Guralnick & Brnett, 1987; Mckey et al, 1985; Ramey Bryant& Suarez, 1985; White & Costo, 1985). Early childhood education was found to yield large improvement in school performance relating to cognitive ability, social skills, motor skills (Osakwe, 2009; Camilli et al. 2010; Goodman and Sianesi, 2005), language and literacy skills (Schillack, 2006), skills to identify letters and pronounce words, and vocabulary development (Isaacs, 2009; Isaacs& Rossel, 2009). The effect of early childhood education was found to be higher for disadvantaged children to gain in language skills and mathematics (Isaacs, 2009). The present study has sought to answer if early childhood education has any significant effect on language development in scheduled tribe children studying in elementary school children and how long does the effect persist.

### **Objectives**

- 1) To study the independent effect of early childhood education on language development in elementary school children studying in Grade I, III and V.
- 2) To study the independent effect of scheduled tribe culture on language development in elementary school children studying in Grade I, III and V.
- 3) To study the interaction effect of early childhood education and scheduled tribe culture on language development in elementary school children studying in Grade I, III and V.

### **Hypotheses**

- 1) There exists independent effect of early childhood education on language development in elementary school children studying in Grade I, III and V.
- 2) There exists independent effect of scheduled tribe culture on language development in elementary school children studying in Grade I, III and V.

- 3) There exists interaction effect of early childhood education and scheduled tribe culture on language development in elementary school children studying in Grade I, III and V.

### III. METHODOLOGY OF THE STUDY

**Design:** Ex-post facto research design along with 2x2 factorial design was used for the present study.

**Sample:** A sample of 120 scheduled tribe and 120 non- scheduled tribe children with and without early childhood education, and were studying at grade I, II and V in elementary schools situated in the district of Koraput and Nabarangpur, Odisha, India were selected randomly using multistage sampling technique. The sample was distributed equally representing cultural background, early childhood education and grade.

**Tools:** Taking phonological, lexical, syntactic and pragmatics aspects of language into accounts the investigator developed three Language Development Tests in Odia one each for grade I, III and V. The content validity of all three tests was determined by the help of experts' judgement. The concurrent validity estimated against the previous school examination scores of the children in language subject for all three tests were .80, .79 and .91 respectively. The reliability calculated using test-retest method for three tests were .98, .90 and .93.

### IV. RESULTS

#### *Language Development: Effect of preschool education at different grades*

**Table-1: Summary of ANOVA showing effect of early childhood education and scheduled tribe culture on language development in children at grade I (N= 80)**

Source of variance	Sum of Square	df	Variance Estimate	F	P
Early childhood education	9.11	1	9.11	0.23	-
Scheduled tribe culture	357.01	1	357.01	9.32	0.01
Early childhood education x Scheduled tribe culture	2.12	1	2.12	0.05	-
Within treatment	2913.15	76	38.3	-	-

Collapsing culture and grade, as can be seen in Table 1 early childhood education had no significant effect on language development in children at grade I ( $F=0.23$ ;  $p > .05$ ). The children with early childhood education and children without early childhood education performed on similar line on language test. However, Table 2 showed that early childhood education had significant effect on language development in children at grade III ( $F = 52.08$ ;  $p < .01$ ) as the individual mean score of the children with early childhood education was higher than the individual mean score of the children without early childhood education ( $M=22.3 > M=12.82$ ). The children with early childhood education performed better than the children without early childhood education in language test at grade III.

**Table-2: Summary of ANOVA showing effect of early childhood education and scheduled tribe culture on language development in children at grade III (N=80)**

Source of variance	Sum of Square	df	Variance	F	P
Early childhood education	1795.51	1	1795.51	52.08	0.01
Scheduled tribe culture	214.49	1	214.49	6.22	0.01
Early childhood education x Scheduled tribe culture	159.64	1	159.64	4.63	0.05
Within treatment	2620.05	76	34.47	-	-

**Table 3: Summary of ANOVA showing effect of early childhood education and scheduled tribe culture on language development in children at grade V (N=80)**

Source of variance	Sum of Square	df	Variance	F	P
Early childhood education	2679.61	1	2679.61	67.49	0.01
Scheduled tribe culture	353.61	1	353.61	13.49	0.01
Early childhood education x Scheduled tribe culture	409.52	1	409.52	10.39	0.01
Within treatment	3017.25	76	39.7	-	-

Table 3 shows that early childhood education had significant effect on the language development in the children studying at grade V ( $F = 67.49$ ;  $p < .01$ ). The individual mean score of the children with early childhood education was higher than the individual mean score of the children without early childhood education ( $M = 22.9 > M = 11.32$ ). Children with early childhood education performed significantly better than the children without early childhood education on language test. Thus, it is concluded that early childhood education has significant positive effect upon the language development in the children studying at grade V.

#### ***Language Development: Effect of Culture at Different Grades***

As it can be seen in Table 1, the scheduled tribe culture had significant retarding effect on the language development of the children studying at grade I ( $F = 9.31$ ;  $p < .01$ ). The individual mean score of the non scheduled tribe children was higher than the scheduled tribe children ( $M = 20.32 > M = 16.1$ ). Table 2 shows that scheduled tribe culture had also significant retarding effect on language development in the children studying at grade III ( $F = 6.22$ ;  $p < .05$ ). The individual mean score of the non scheduled tribe children was higher than the individual mean score of the scheduled tribe children ( $M = 19.2 > M = 15.29$ ). Table 3 also shows that scheduled tribe children had significant retarding effect on language development in the children studying at grade V ( $F = 13.49$ ;  $p < .01$ ). The individual mean score of the non scheduled tribe children was higher than the individual mean score of the scheduled tribe children ( $M = 19.7 > M = 14.5$ ).

### Language Development at Different Grades: The Interaction Effect of Early Childhood Education and Culture

As it can be seen in Table 1 early childhood and scheduled tribe culture had no significant interaction effect on the language development in the children studying at grade I ( $F = .05$ ;  $p > .05$ ). Table 2 shows that the interaction effect of early childhood education and scheduled tribe culture was found to be significant for the language development in the children studying at grade III ( $F = 4.63$ ;  $p < .05$ ). It is concluded that early childhood education and scheduled tribe culture has significant interaction effect on the language development in the children. Further, this interaction effect was analysed by Scheffee's method for multiple comparison. Table 4 shows that there was no significant difference between scheduled tribe children with early childhood education and non scheduled tribe children with early childhood education studying at grade III on language development ( $F = 0.84$ ;  $p > .05$ ). It was also revealed that there was no significant difference between scheduled tribe and non scheduled tribe children without early childhood education at grade III on language development ( $F = 0.30$ ;  $p > .05$ ). There was significant difference between non scheduled tribe and scheduled tribe children with early childhood education at grade III on language development ( $F = 43.97$ ;  $p < .01$ ). Similarly, the difference between scheduled tribe children with early childhood education and non scheduled tribe children without early childhood education was significant at grade III on language development ( $F = 11.17$ ;  $p < .01$ ). Finally, there found significant difference between scheduled tribe children without early childhood education and non scheduled tribe children with early childhood education at grade III on language development ( $F = 47.25$ ;  $p < .01$ ). Therefore, language development is significantly influenced by the interaction of early childhood education and scheduled tribe culture at grade III.

As can be seen in Table 3, the interaction effect of early childhood education and scheduled tribe culture was significant for language development in the children studying at grade V ( $F = 10.31$ ;  $p < .01$ ). It is concluded that early childhood education and scheduled tribe culture has significant interaction effect on language development in the children studying at grade V.

**Table-4: Summary of F values obtained by Scheffee's method for multiple comparison of interaction effect of early childhood education and scheduled tribe culture on language test of elementary school children at grade III (N =80)**

Groups	F	P	Mean
Early childhood tribe children vs Early childhood non scheduled tribe children	0.84	-	9.68 12.67
Non early childhood scheduled tribe children vs Non early childhood scheduled tribe children	0.30	-	6.2 6.52
Early childhood Edn scheduled tribe children vs Non early childhood scheduled tribe children	12.85	0.01	9.62 6.3
Early childhood scheduled tribe children			12.6

vs Non early childhood non scheduled tribe children	43.97	0.01	6.52
vs Non early childhood scheduled tribe children	11.7	0.01	9.62
vs Early childhood non scheduled tribe children			6.52
vs Non early childhood scheduled tribe children	47.25	0.01	6.3
vs Early childhood non scheduled tribe children			12.6

**Table-5: Summary of F values obtained by Scheffee’s method for multiple comparison of interaction effect of early childhood education and scheduled tribe culture on language test of elementary school children at grade V (N= 80)**

Comparison	F	P	Mean
Early childhood Education scheduled tribe children vs Early childhood Education non-scheduled tribe children	23.76	0.01	9.02 13.8
Non early childhood scheduled tribe children vs Non early childhood non-scheduled tribe children	0.1	-	5.5 5.8
Early childhood scheduled tribe children vs Non early childhood scheduled tribe children	12.55	0.01	9.02 5.5
Early childhood non scheduled tribe children vs Non early childhood non-scheduled tribe children	65.45	0.01	13.8 5.8
Early childhood scheduled tribe children vs Non early childhood non scheduled tribe children	13.34	0.01	9.02 5.82
Non early childhood scheduled tribe children vs Early childhood non scheduled tribe children	70.84	0.01	5.5 13.8

Table 5 shows the results of multiple comparisons for various groups of children studying at grade V. Language development of non scheduled tribe children with early childhood education was better than scheduled tribe children with early childhood education (F= 23.76; p< .01). Further, there found out that the language development of scheduled tribe children with early childhood education was significantly better than scheduled tribe children without early childhood education (F= 12.55; p <.01) and non scheduled tribe children without early childhood education (F= 10.34; p< .01). Similarly, non scheduled tribe children with early childhood education did significantly better than scheduled tribe children without early childhood education (F =70.84; p< .01) and non scheduled tribe children without early childhood education (F =65.45; p < .01) on language development test at grade V. Scheduled tribe and non scheduled tribe children without early childhood education performed in similar line on language test (F= .01; p >.05) at grade V.

## **MAJOR FINDINGS**

The findings can be summarized as follows:

- (i) The children with early childhood education and without early childhood education performed in language test on similar line at grade I.
- (ii) The performance of children with early childhood education was significantly better than the children without early childhood education in language test at grade III and V.
- (iii) Early childhood education has got delaying long lasting positive impact on language development in the children.
- (iv) Language development is significantly influenced by the interaction of early childhood education and scheduled tribe culture at grade III.
- (v) The performance of non scheduled tribe children was significantly better than the performance of scheduled tribe children on language test at grade I, grade III and grade V.
- (vi) The finding can be summarized that scheduled tribe culture retards language development in the children at grade I, grade III and grade V.
- (vii) Language development is significantly influenced by the interaction of early childhood education and scheduled tribe culture at grade III.

## **V. DISCUSSION**

The result that the children with early childhood education performed significantly better than the children without early childhood education on language test can be attributed to the superiority of early childhood education experience in facilitating language development at later stage of education. Language is a social phenomenon. Social experience has direct bearing on language development. Children with early childhood education get deliberate exposure of language skills before they start formal schooling, whereas the children without early childhood education background experience informal exposure of language skills in society. Thus, it was the superiority of early language experience due to early childhood education that facilitates language development in children at elementary school stage positively and significantly. The finding that the children belonging to tribe culture lagged significantly behind the non scheduled tribe children in language development can be interpreted that rich cultural background results in higher performance in language test. The scheduled tribe culture is a deprived culture. It is deprived in the sense that it is yet to be enriched with modernization as compared to non scheduled tribe culture. Moreover, the children belonging to scheduled tribe culture use native dialects in their conversation. The language which they learn and use at school is foreign to them. Their language retardation found in the present study might be due to the lack of their capability of differentiating, interpreting and integrating language elements given in language test. This hypothesis cannot

be ignored while studying language development of the scheduled tribe children. It needs further investigation to validate the present finding.

Language is a by-product of societal environment and cultural background. A child learns social language from mother's mouth and continues to develop his or her language skills through society to school and college. Therefore, language development is purely cultural and societal in structure and function. Enriched culture and early childhood education provides rich early experiences for which language development of a child at school is enhanced. Culture also facilitates language development in the children. Enriched early childhood experience in the form of early childhood education facilitates language development in children significantly. When it interacts with primitive scheduled tribe culture, language development is retarded. Therefore, continuance of language development depends upon the continuum of societal environment and cultural background.

The finding that there exists delaying long lasting positive impact of early childhood education on language development in the children can be interpreted that deliberate and enriched early educational experiences result in superiority in development of language skills in children for a long period of time. In early childhood education, a child comes across four basic language skills such as listening, speaking, reading and writing deliberately. Deliberate effort of making children aware of these language skills during early years helps children to develop more complex language skills in the future. Therefore, early childhood education acts as a facilitator for the development of language in the children at elementary school stage.

The finding that the scheduled tribe culture continues its adverse impact on the language development for a long period of time can be interpreted that scheduled tribe culture is handicapped in developing language skills in children. The oral language in a scheduled tribe culture includes dialects. These dialects are as primitive as their culture. Language of a civilized culture grows spontaneously and continuously. In this context the scheduled tribe culture is yet to be acculturated and diffused. Therefore, more the culture becomes developed more it influences language development in children.

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