RESULTS AND DISCUSSION

The present study evolved around finding answers to the five main objectives. The first objective was to investigate whether ICDS and NPSE children differed in their developmental skills. Secondly, the study undertook the task of exploring whether children from two different Anganwadis, one rated as high and other rated as low; differed in their developmental skills. The third objective was concerned with the differences between ICDS and NPSE children from first grade of primary school and had two aspects; (i) to compare ICDS and NPSE children on the measure of reading readiness; and (ii) to find out whether ICDS and NPSE children differed on specific school related behaviours, as per teacher's assessment. The fourth objective was to find out the extent to which children's performance could be attributed to their home environments. Finally, the study looked into the school environment inclusive of teaching learning processes and their implications for children's learning. The findings are discussed under five major sections, each pertaining to one of the objectives stated above. The chapter concludes with a brief pen picture of ICDS and NPSE children.

Comparison of ICDS and NPSE children on Developmental Skills

The performance of ICDS and NPSE children on major areas of development (gross motor, conceptual, language, personal social and finer motor) was investigated using 't' test for unequal 'n' size to test significance of difference between groups. Mean scores, standard deviations and 't' values are presented in

table 3. The data indicated that the mean performance of ICDS children was higher compared to NPSE children in all areas of development. The difference was significant ($P<.001$) in all areas of development except gross motor skills, in which no significant difference was found between the two groups. The difference was particularly large in conceptual and readiness skills wherein ICDS children acquired a mean score of 13.45 compared to 6.70 by NPSE children.

Although one to one relationship between preschool experience and children's attainment of developmental skills cannot be derived but the data showed that ICDS preschool experience had a positive influence on children's development. The fact that no significant difference was observed in gross motor skills is attributed to child's natural environment which provides enough opportunity for the development of these skills. In addition, the constraint of space at the Anganwadi limits the children's opportunity to practice gross motor skills. With the result, even ICDS children did not show maximum possible gains in the area of gross motor skills. But the impact of ICDS experience was evident on conceptual, language, personal social and finer motor skills. These findings lend credence to existing body of research which reports on facilitative influence of preschool experience on intellectual and language development (Mohanty & Mohanty, 1985; Muralidharan & Banerji, 1974; Prakasha, 1983). Research has also identified effects of preschool on children's cognitive and social development (Kagitcibasi, Sunar & Bekman, 1988).

TABLE 3

't' Test Comparing ICDS and NPSE Samples on Developmental Skills

Areas	ICDS Children	NPSE Children	t	P level
Gross Motor Skills				
M	9.06	8.15	1.59	NS
SD	2.16	2.79		
Conceptual and Readiness Skills				
M	13.45	6.70	9.00	0.001
SD	3.32	2.00		
Language Skills				
M	6.68	4.35	4.48	0.001
SD	2.15	1.94		
Personal Social Skills				
M	5.46	3.25	5.02	0.001
SD	2.02	0.82		
Finer Motor Skills				
M	9.41	7.40	4.78	0.001
SD	1.67	1.80		

Note : n = 60 ICDS and 20 NPSE

A persual of studies on impact of preschool experience of ICDS indicate influence on two core areas; language and cognitive development (Adhish, Zaheer, Sinha & Siddiqui, 1989; Khosla & Kataria, 1986; Muralidharan & Kaur, 1983; Sahoni &Aggarwal, 1989; Shrivastava & Shrivastava, 1989). Researchers who have conducted indepth studies of non-formal preschool education of ICDS, highlighted its influence on all areas of development except gross motor skills (Anandalakshmy & Sharma, 1986; Mistry, Kaul & Dhar, 1986; Sood, 1987, Tarapore, Deshpande & Pendse, 1986).

The Anganwadi programme provides regular experiences through various activities viz; music, creative activities, alphabet and number activities, stories and some form of indoor and outdoor play. It is therefore reasonable to expect that children respond to these experiences as is reflected through the acquisition of their developmental skills. Conversely, NPSE children demonstrated lower levels of conceptual, language, personal social and finer motor skills. This could be on account of their lack of practice in these skills. Undoubtedly, they are devoid of opportunity to learn concepts, specific labels, properties of objects or attend to relevant stimuli in their environment. Owing to their experiential limitations, children possess lower levels of cognitive, linguistic, social and self concept functioning (Biber, 1970; UNESCO, 1983; Verzaro-Lawrence, 1980). These developmental shortcomings are mainly reflected in children's verbal conceptual functioning and their inability to connect with the world of things and people (Biber, 1970).

These views are reinforced in the Indian context through the researches which have attempted to develop the construct of deprivation and examined its consequences. It is reported that cognitive, linguistic and motivational problems of deprived have roots in early experiences; with deprivation interfering with growth of perceptual and cognitive processes. (Misra & Shukla, 1984; Misra, 1982). These studies lend support and explain the lower levels of developmental skills possessed by NPSE children.

In view of the influence of early experience on children's development, it is essential for intervention programmes to focus attention on developmental variables. The consensus of the opinion is that early experience provides impetus and considerable stimulus value for children who come from settings where they are devoid of access to simple objects and experiences (Olmsted & Weikart, 1989; Pozner, 1983). This stimulation in turn is responsible for promoting the acquisition of certain specific developmental skills.

Age-wise Differences Between ICDS and NPSE Children on Developmental Skills

Differences between ICDS and NPSE children were also examined both in the younger age group (3 1/2 - 4 1/2 years) and older age group (above 4 1/2 years). Data is represented in terms of means and standard deviations because of small 'n' size for NPSE children (see Table 4).

TABLE 4

Means and SDs of ICDS and NPSE Samples on Developmental Skills by Age

Areas	Age in Years					
	3.6 -	4.6* -	4.7 -	5.6 -	4.7 -	5.6*
	ICDS (n=37)	NPSE (n=11)	ICDS (n=23)	NPSE (n=9)	ICDS (n=37)	NPSE (n=11)
Gross Motor Skills						
M	8.40	7.36	10.13	10.22	10.18	9.81
SD	2.33	1.86	1.35	1.31	0.85	1.02
Conceptual and Readiness Skills						
M	13.08	6.18	14.04	7.00	14.70	9.00
SD	3.74	2.28	2.38	1.15	2.43	2.00
Language Skills						
M	7.21	4.36	8.39	4.60	7.86	5.00
SD	2.43	1.44	1.34	0.66	1.31	1.00
Personal Social Skills						
M	6.13	3.36	6.26	3.11	6.35	4.63
SD	2.28	0.94	1.59	1.69	1.71	1.29
Finer Motor Skills						
M	8.91	6.70	10.21	8.22	10.32	8.00
SD	1.78	1.71	1.05	1.54	1.44	1.53

Note : * = Same children (first and second assessment)

Examination of data revealed that the average performance of ICDS children was considerably higher than NPSE children, in all areas of development for both age groups. Data is further explicated in Figure 3 and 4. It was observed that there was increase in children's developmental skills with corresponding increase in their age. Within ICDS children increase was evident in gross motor, conceptual and finer motor skills. Whereas, in language and personal social skills the increase was comparatively less. Perhaps, it is difficult to sustain increase in language and personal social skills after the initial spurt. But it could be argued that preschool programme at the Anganwadi does not cater to the needs of older age group children. Experiences provided in the Anganwadis do not offer opportunity for older children to practice higher level skills.

Among NPSE children increase was observed in gross motor, conceptual, personal social and finer motor skills. But their performance in language skills was relatively constant. This increase could be a function of their developmental process. It should be noted that although NPSE children demonstrated increase in developmental skills with advancement of age, yet their level of attainment of skills remained far below their ICDS counterparts.

A closer examination of data in Table 4 shows that the performance of ICDS children was higher than NPSE children but the average performance of ICDS children remained below the optimal expected level as measured by developmental assessment

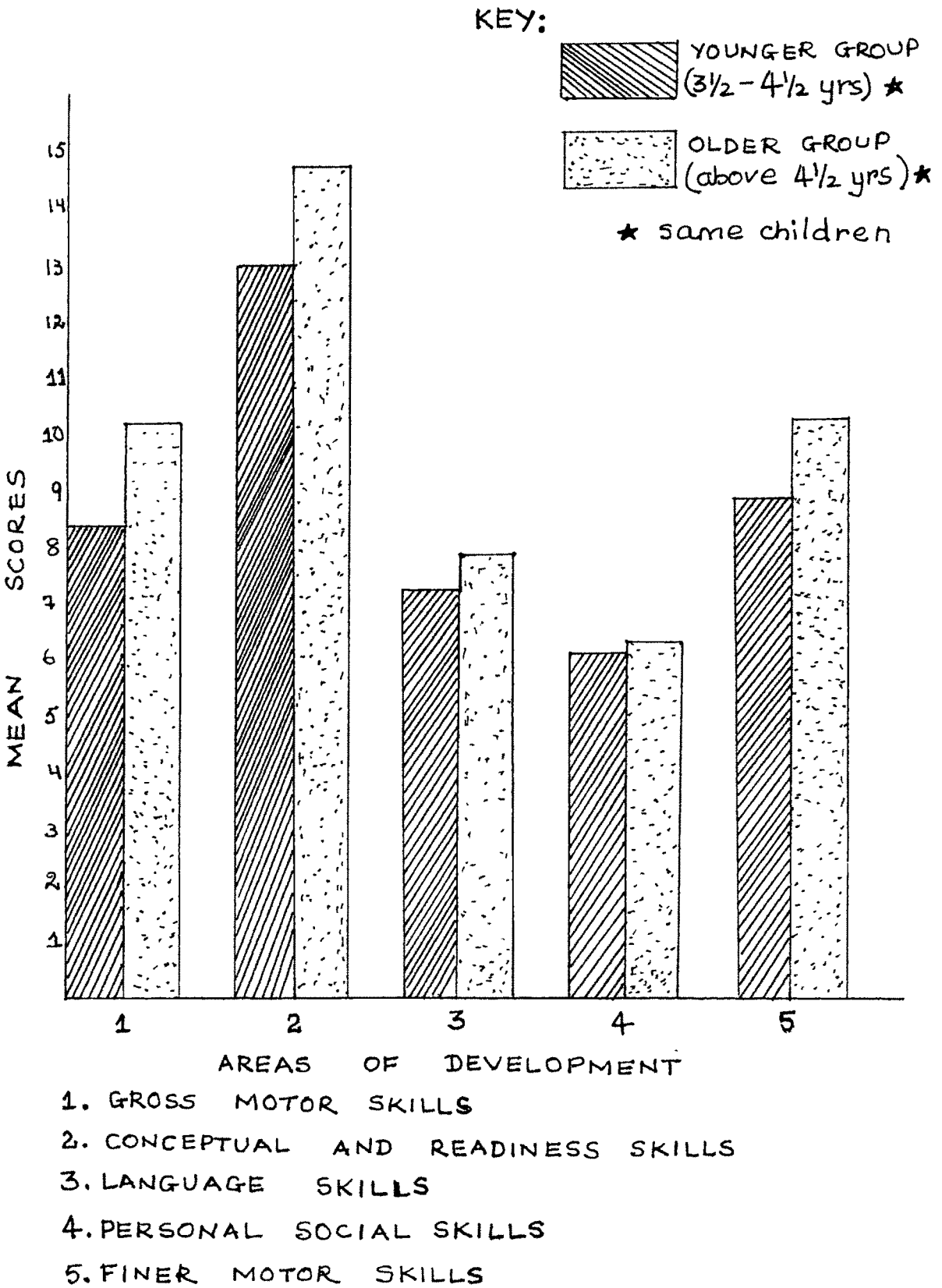

FIGURE 3: Performance of ICDS Children on Developmental Skills

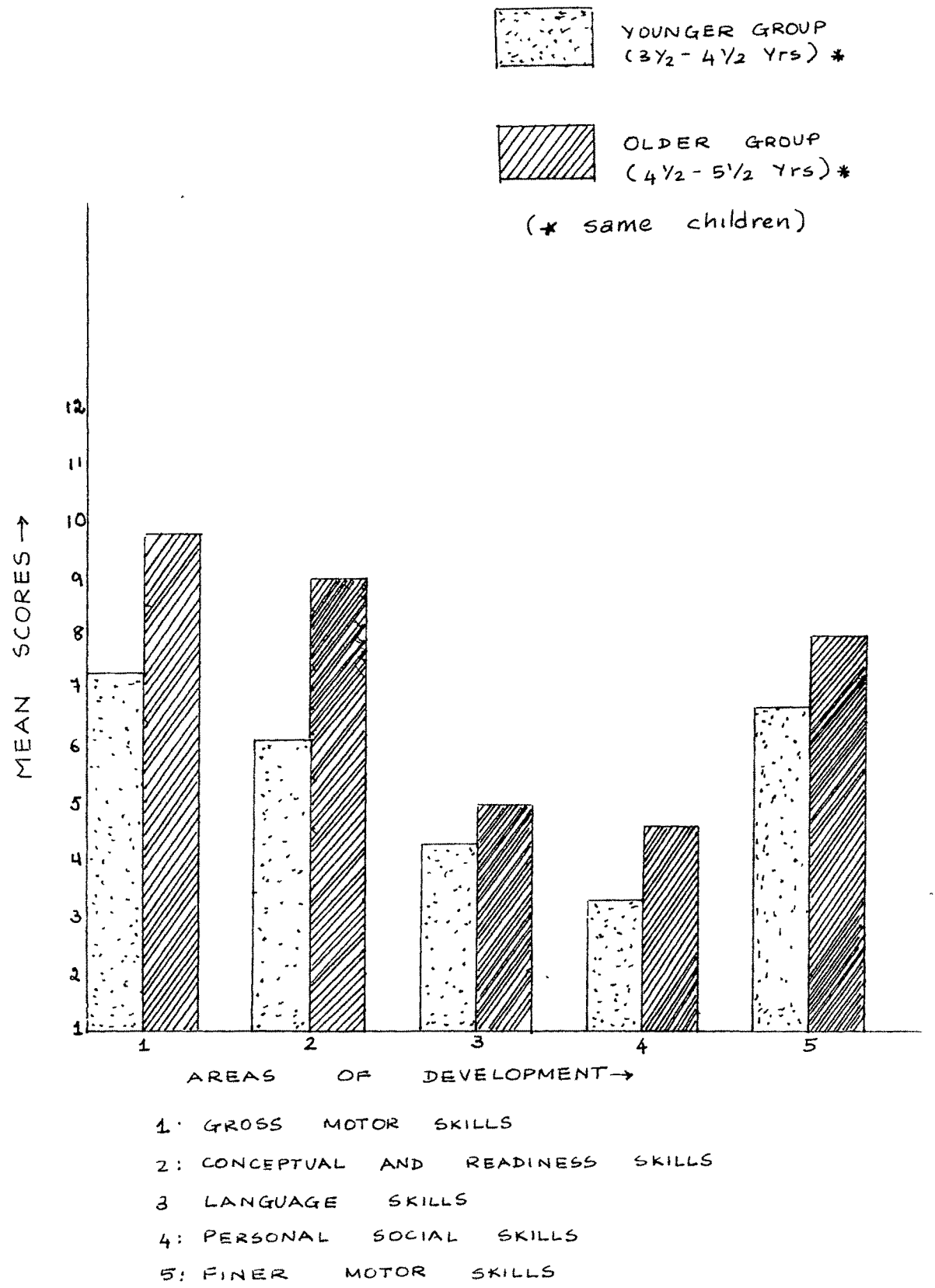

FIGURE 4 :- Performance of NPSE Children on Developmental Skills

checklist. This is supported by the fact that ICDS children (older age group) acquired an average of only 14.70 out of the maximum possible score of 27.0 (54.44%) in conceptual skills, 7.86 out of 12.00 (65.50%) in language skills, 6.35 out of 9.0 (70.55%) in personal social skills and 10.32 out of 15.0 (68.80%) in finer motor skills. This highlights the extent of effects of ICDS experience on children's developmental skills. The findings reiterate the need to review preschool component of ICDS with reference to programme and activities for children in the age range 4.6 - 5.6 years.

Comparison of Two Groups of ICDS Children on their Developmental Skills

The findings related to the second objective of the study were based on the comparison of ICDS children from two Anganwadis. As mentioned in the preamble, 15 AWs were assessed on the basis of an observation proforma. The major indices for assessment included; preschool attendance, physical set up of Anganwadi/preschool; AW services (both health and non-health), and AWW's skills/abilities in planning and implementing various services. The AWs were rated and ranked as per the total score obtained on the above mentioned indices. Based on the total score, two AWs on extreme polarities were selected and children from these AWs were compared on their developmental skills.

The significance of difference was tested by using 't' test for small samples. Table 5 presents means, standard deviations and 't' values for two ICDS groups. As shown in the table, the

TABLE 5

't' Test Comparing Two Groups of ICDS Children on Developmental Skills

Areas	Children from HRA	Children from LRA	t	P level
Gross Motor Skills				
M	8.83	9.30	0.85	NS
SD	2.65	1.48		
Conceptual and Readiness Skills				
M	13.66	13.29	0.50	NS
SD	3.70	2.87		
Language Skills				
M	6.86	6.66	0.37	NS
SD	2.12	2.19		
Personal Social Skills				
M	5.86	5.06	1.60	NS
SD	1.99	1.96		
Finer Motor Skills				
M	9.36	9.46	0.23	NS
SD	1.81	1.38		

Note : n = 30 in each group

HRA = Highest ranking Anganwadi

LRA = Lowest ranking Anganwadi

two groups did not differ significantly in any area of development. All the 't' values were non-significant at .05 level. A retrospective analysis evokes two key hypotheses; (a) the range of difference observed in the two AW programmes was not large enough to be reflected in children's performance; (b) the AWs were ranked on the basis of overall programme idicators and not just preschool programme indices which could be more closely related to children's developmental skills. This is supplemented by the fact that quality of preschool programme is a complex and a relative concept, hence there is a need to generate standard categories and components of quality against which programmes can be measured (UNICEF, 1990). In order to identify specific programme aspects of a better functioning Anganwadi programme a small follow-up study was conducted after obtaining the above mentioned results. The details of this study are presented below.

Follow-up Pilot Study

The main objective of the follow-up study was to delineate specific programme indicators which would have a bearing on children's performance. Therefore, the aim was to use a modified AW rating proforma and find out whether it discriminates between a better and poor AW programme.

Sample

A total of 26 AW centres covering a particular geographical area were selected from urban slums of Baroda ICDS block. These

AWs were rated and ranked on the basis of a modified observation proforma (Appendix B). Two AWs (AW_1 and AW_{26}) were selected on extreme polarities. A purposive sample of 10 children who were regular and attended a full day's programme was drawn from each of these AWs, thus covering a total of 20 children. The age of these children ranged between 4.7 - 5.6 years, with their mean age 5.1 and 5.0 years for children from AW_1 and AW_{26} respectively. The two groups of children were matched on the variables of socio-economic status, viz; mother's education, family income and father's occupation. Children from both the groups had illiterate mothers, their family's income ranged between Rs.400 - 500 per month and their fathers were employed in regular jobs.

Tool

A modified observation schedule (Appendix B) was developed by the investigator for the assessment of Anganwadi programme. The items were combined from the investigator's observation proforma (IOP) developed by NIPCCD and N.C.E.R.T's observation proforma for Anganwadi assessment. In addition, Soto, Fernandez and Cantieri's (1990) article on 'Towards an Ecological Approach of Observing in Early Childhood Settings'; served a useful guide for selection of items. The schedule comprised of following main sub-sections:

- Preschool attendance
- Physical set up of preschool/AW
- Frequency of conducting preschool activities

- Performance of preschool children
- AWW's skills/abilities in organization and implementation of preschool programme
- Worker-child verbal interaction
- AWW's personal qualities
- Parent - worker and community's involvement.

Each of these sections consisted of items which were accompanied by a rating ranging from 0-4. Thus both total and sub-scale score could be obtained for the tool.

Procedure of Data Collection

The modified observation schedule was used for assessing the AW programmes. Observations were conducted by two observers for a minimum of three regular days. The information thus collected was used for rating the AWs. Based on the total score, AWs were ranked and AW_{1} and AW_{26} was selected for the study. From each of these AWs 10 children were drawn. Children's developmental skills were assessed using the Developmental Assessment Checklist for preschool children.

Findings

The performance of two groups of ICDS children (from AW_{1} and AW_{26}) on various areas of development is represented in terms of means and standard deviations because of small 'n' size for both groups (Refer Table 6). Data is also explicated in Figure 5. As is evident from the table and supported by Figure 5, children

TABLE 6

Means and SDs of Two Groups of ICDS Children on Developmental Skills

Areas	Children from AW_1	Children from AW_{26}
Gross Motor Skills		
M	10.70	10.20
SD	0.92	0.97
Conceptual and Readiness Skills		
M	14.50	11.50
SD	2.01	2.94
Language Skills		
M	8.40	6.60
SD	1.20	.80
Personal Social Skills		
M	7.10	5.00
SD	1.12	1.26
Finer Motor Skills		
M	10.40	9.70
SD	0.91	0.90

Note : n = 10 for each group.

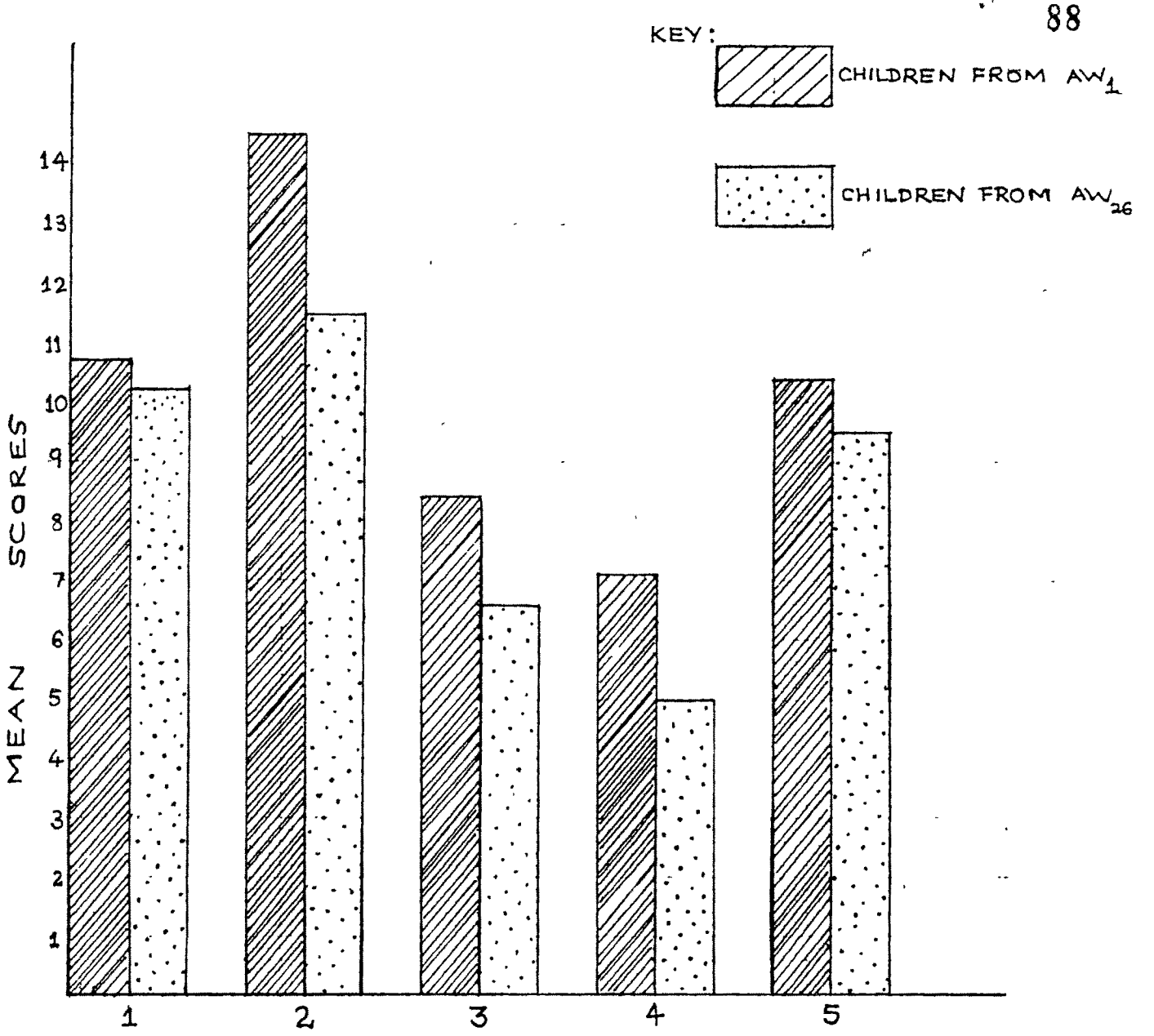

FIGURE 5: Performance of Children from AW_1 and AW_{26} on Developmental Skills

differed in conceptual and readiness skills, language skills and personal social skills. The difference was in favour of children from highest rated AW i.e; AW_1. However, there was not a noticeable difference in children's gross motor and finer motor skills.

While attempting to scrutinize the features which differentiated the two AWs, observations highlighted that the highest rated AW differed from lowest rated AW on following major aspects; availability of teaching aids, AWW's skills and abilities in organization and implementation of preschool programme, worker - child verbal interaction and parent's and community's involvement in AW activities. Within these indices, there were two important features on which AW_1 scored very high. These included; worker - child verbal interaction, and parent's and community's involvement in AW activities. In fact, AW_1 received tremendous support from the community whereas community participation in AW_{26} was minimal. Liquor and gambling was highly prevalent in this community, they were not interested in the AW programme and failed to perceive the benefits of the programme.

A further support to the worker from AW_1, was provided by appropriate worker-child ratio, adequate space and aids, helper's assistance in conducting preschool activities and a strong and effective administrative support from the supervisor. Moreover, an important point which needs to be highlighted is that specific programme features should exist in combination and not in isolation. This is supported by the fact that although worker -

child ratio in AW 26 was low and AWW received effective guidance and support from the supervisor but in the absence of parent's participation it failed to influence worker's functioning and children's outcomes. The perspective of quality has been noted to be a blending of specific indicators (UNICEF, 1990). This should form the basis for understanding and identifying quality preschool programmes.

The findings which emerged from the follow-up study need to be treated as indicative of trends rather than as conclusive evidence. This is because the results were based on a small sample as the study was undertaken after obtaining result with regard to comparison of two groups of ICDS children. It is therefore suggested that enquiry along this line be extended to a larger representative sample with further attempts at strengthening the AW rating proforma. This becomes essential because there has been lot of emphasis on need and importance of quality in preschool programmes but supportive research evidence in terms of what constitutes a quality preschool programme, is limited.

Salient Features which Emerge from Findings Related to Preschool Age Sample

- ICDS children scored significantly higher than NPSE children on all areas of development except gross motor skills.

- The performance of NPSE children (both at younger and older age level) was far below their ICDS counterparts in all areas of development except gross motor skills.

- AW programmes that differed in their overall global rating did not result in differential influence on children's developmental skills. But there was a trend showing that programmes which varied widely on specific features were indicative of their influence on children's developmental skills.

Apart from finding the influence of ICDS preschool experience on children's development at the preschool level, attempt was made to find out whether preschool participants are at an advantage in the first grade of primary school. The sections that follow thus report on the findings related to primary school children.

Influence of ICDS Preschool Experience on Children's Reading Readiness and Specific Classroom Behaviours

This section which was concerned with the sample from first grade of primary schools had two aspects ; (i) to compare ICDS and NPSE children on reading readiness; and (ii) to investigate whether ICDS and NPSE children differ with regard to specific classroom behaviours.

To compare ICDS and NPSE children from two schools on the measure of reading readiness, a 2 x 2 analysis of variance was used. The 'F' values presented in Table 7 indicated that the two

TABLE 7

Two - way Analysis of Variance Indicating Performance of Children on Reading Readiness Test

Areas	Source of variation	Sum of Squares	df	Mean Sum of Squares	F	P Level
Word Meaning	Groups (A)	350.20	1	350.20	69.98	0.001
	Schools(B)	.075	1	.075	.015	NS
	A x B	29.00	1	29.00	5.79	0.01
Visual Discrimination	Groups(A)	1306.80	1	1306.80	62.95	0.001
	Schools(B)	83.33	1	83.33	4.01	0.05
	A x B	1.20	1	1.20	.58	NS
Sentence Meaning	Groups(A)	484.00	1	484.00	96.35	0.001
	Schools(B)	.408	1	.408	.081	NS
	A x B	25.20	1	25.20	5.01	0.05
Copying	Groups(A)	360.53	1	360.53	74.44	0.001
	Schools(B)	61.63	1	61.63	12.72	0.01
	A x B	3.33	1	3.33	.698	NS
Auditory discrimination	Groups (A)	.133	1	.133	.160	NS
	Schools (B)	0.0	1	0.0	1.00	NS
	A x B	.000	1	.000	1.00	NS

Note : n = 30 for each of the groups and each of the schools.

groups differed significantly (P <.001) on the sub-categories; comprehension of word meaning, sentences meaning, visual discrimination and copying. The ICDS children surpassed their NPSE counterparts in these sub-categories. However, no difference was detected in children's auditory discrimination skills. The performance of both the groups was poor on this dimension of reading readiness.

The data presented in Table 7 also showed that the groups and the schools interact to affect children's performance on the sub-aspects; comprehension of word meaning and sentence meaning. Both the interactions were significant at ($p < .01$) and ($P<.05$) level respectively. Data is further presented in Figures 6 and 7. Differences were also observed between children from two schools on the sub-aspects; visual discrimination and copying. These differences were significant at ($P<.05$) and ($P<.01$) level respectively. Means and standard deviations for the two groups from two schools are presented in Table 8.

Data indicates that a noteworthy achievement of presechool lies in inculcating reading readiness skills in children. These skills have been deemed essential for formal learning in school. The present study findings are congruent with earlier researches which report enhanced school readiness for preschool participants at the beginning of first grade (Halpern & Myers, 1985; Jadue, 1989; Mistry, 1983; Muralidharan & Banerji; 1975; Myers, 1989). It therefore, seems beyond dispute to conclude that preschool experience has a measurable positive impact on children's readiness.

TABLE 8

Means and SDs of ICDS and NPSE Children from Two Schools on Reading Readiness Test

Areas	ICDS Children		NPSE Children	
	School 1 (n = 30)	School 2 (n = 30)	School 1 (n = 30)	School 2 (n = 30)
Word Meaning				
M	11.97	11.03	7.57	8.60
SD	2.48	2.18	1.91	1.66
Visual Discrimination				
M	15.23	13.77	8.83	6.97
SD	4.09	3.81	5.29	4.60
Sentence Meaning				
M	11.20	10.17	6.27	7.07
SD	2.08	2.49	2.45	1.69
Copying				
M	7.03	8.13	3.23	5.00
SD	2.87	2.12	1.97	1.41
Auditory Discrimination				
M	0.07	0.07	0.0	0.0
SD	-	-	-	-

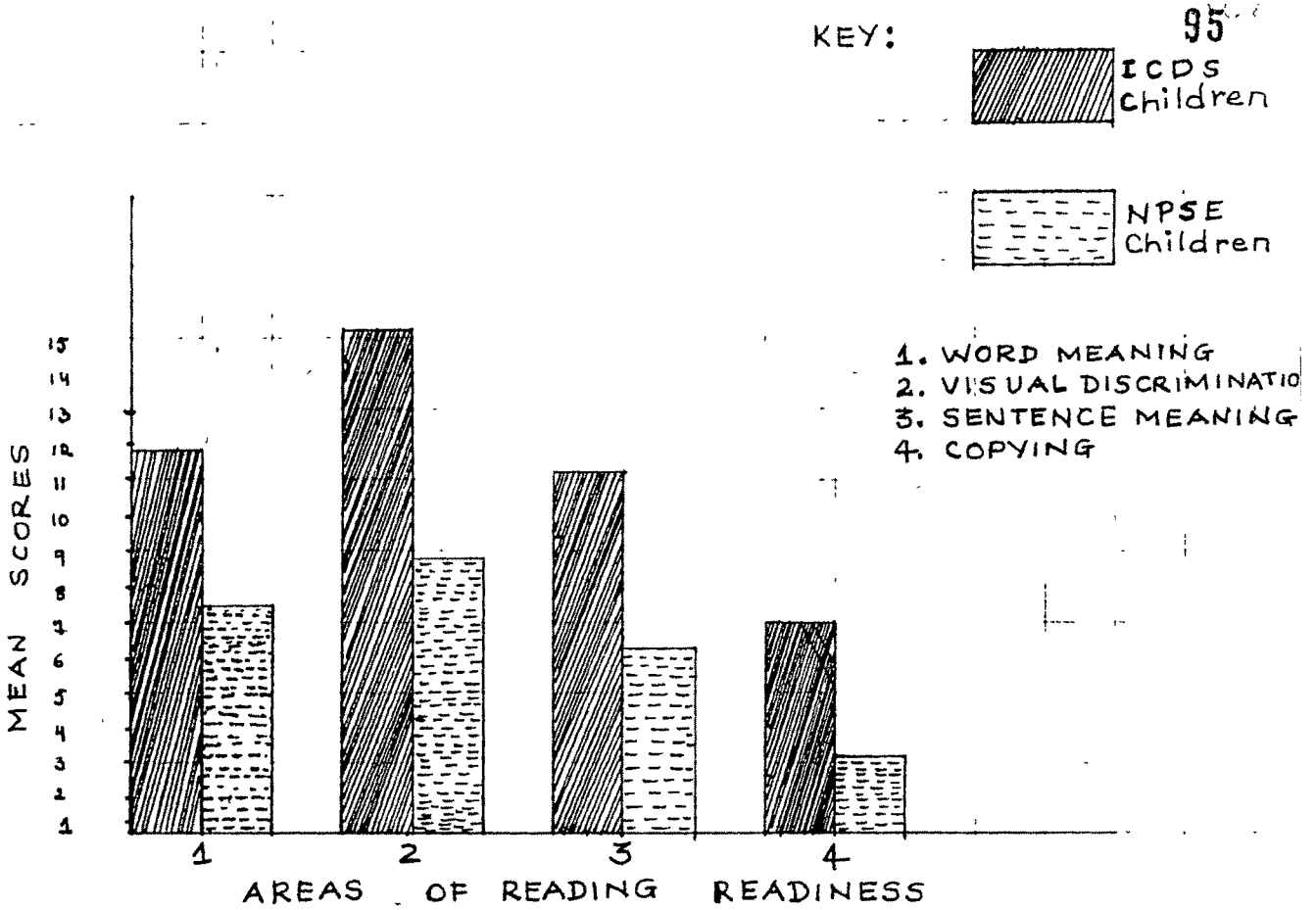

FIGURE 6: Mean Performance of ICDS and NPSE Children from School 1 on Reading Readiness

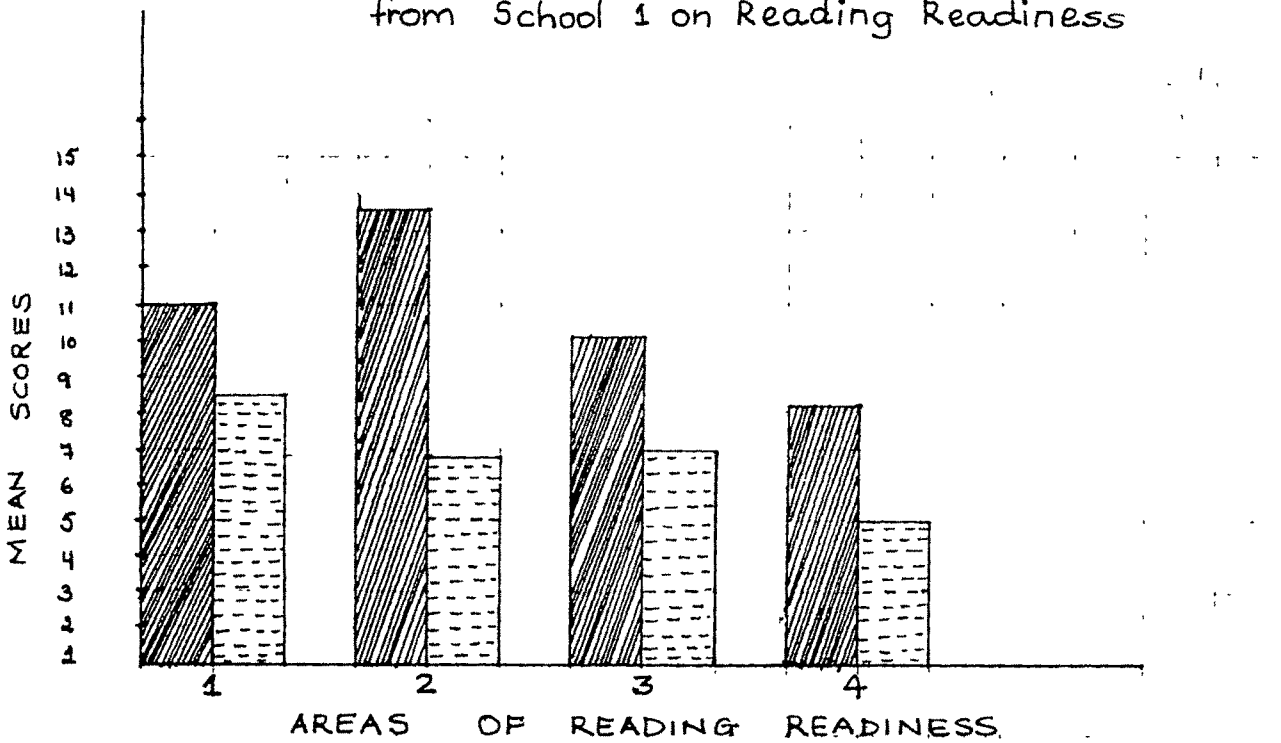

FIGURE 7: Mean Performance of ICDS and NPSE Children from School 2 on Reading Readiness

Conversely, NPSE children had not acquired the expected level of reading readiness skills. Therefore, these children could be at a disadvantage at the beginning of first grade, with the possible consequences of underachievement, failure and school drop out being greater for them.

The two groups did not differ in a sub-category of reading readiness i.e 'auditory discrimination skills'. The performance of both the groups was poor in this area. It could be inferred that even ICDS preschool experience failed to inculcate these skills in children. This could be because of lack of focus in the programme on the activities which would promote these skills. Moreover, the city environment in which children grow is characterized by noise, leaving little scope to sensitize children to discrimination sounds. Yet; auditory ability is an important predictor of later reading performance. Hence, the need and importance of investing in experiences which would promote acquisition of auditory discrimination skills seems imperative.

The finding that preschool experience influences children's reading readiness at the beginning of first grade can be gratifying to those who advocate early childhood education. But the question inevitably arises; Does children's socio-economic background also play a role in contributing to this influence ? Therefore, ICDS and NPSE children whose socio-economic background was similar were compared on the measure of reading readiness.

Performance of ICDS and NPSE Children (from Similar Socio-Economic Background) on Reading Readiness

It was conjectured that perhaps the better performance of ICDS children could be attributed to their comparatively better socio-economic background. This possibility was investigated by comparing a sub-sample of ICDS and NPSE children who were from similar backgrounds in terms of mother's level of education (illiterate), father's occupation (regular job), and monthly per capita income of the family (Rs.75-100).

The groups were compared on various aspects of reading readiness and significance of difference was tested using 't' test for unequal 'n' size. Findings revealed that ICDS children continued to score higher on various aspects of readiness. As shown in Table 9 which presents means, standard deviations and 't' values, it was found that there was a significant difference ($P < .001$) in children's comprehension of sentence meaning and copying skills. This was followed by significant differences ($P < .01$) in visual discrimination and comprehension of word meaning. All the differences were in favour of ICDS children.

As is apparent from the data, ICDS preschool experience helped even children from "poorer" family backgrounds to acquire reading readiness skills. It has been noted that children respond to educational environments that attempt to stimulate them no matter how disadvantaged they are (Gill, Singh & Chauhan, 1990; Lee, Gunn & Schnur 1988; Muralidharan & Kaur, 1983). Hence, it is evident that children from lower socio-

TABLE 9

't' Test Comparing ICDS and NPSE Children from Similar Background on Reading Readiness Test

Areas	ICDS Children (n=14)	NPSE Children (n=16)	t	P level
Word Meaning				
M	10.28	7.43	2.88	0.01
SD	2.98	2.34		
Visual Discrimination				
M	12.28	7.25	2.94	0.01
SD	4.52	4.58		
Sentence Meaning				
M	9.85	6.00	3.89	0.001
SD	2.82	2.52		
Copying				
M	7.64	4.12	4.44	0.001
SD	2.34	1.86		
Auditory Discrimination				
M	0.0	0.0	-	-
SD	-	-		

economic group can benefit from preschool experience. Another theme threaded through this interpretation is that the potential of early intervention to bring about improvement may be greater when socio-economic conditions are more severe. This is because in more severe conditions early intervention serves a compensatory function. With the result, the gains made by children are likely to be proportional to the degree of their disadvantage (Dash & Rath, 1985; Lee, Gunn & Schnur, 1988; UNICEF, 1990; Verzaro - Lawrence, 1980).

Individual differences in children's performance on reading readiness : Attempt was also made to examine individual differences with regard to children's reading readiness performance both for ICDS and NPSE children. On the basis of the total scores obtained by the children, they were categorized into 'Average and Above Average' and 'Weak and Very Weak' categories.

The categorization ranging from 'very weak' to excellent has been delineated in the reading readiness test manual. Based on the categorization it was found that out of total of 60 ICDS children, 39 (65%) were performing at 'average and above average' level and 21 (35%) were performing at 'weak and very weak' level. On the other hand among NPSE children out of total of 60 children, 55 (91.66%) were performing at 'weak and very weak' level and only 5 (8.33%) were performing at 'average and above average' level. This information tells us that majority of ICDS children were gaining in their reading readiness skills whereas majority

of NPSE children were below average in their reading readiness skills. This observation also sheds light on individual differences within the two groups.

It is important to know about variations in children's performance apart from knowing mean differences between experimental and control groups (Sigel, 1990). This is in view of the fact that wide individual differences occur among poor children with regard to their accrued benefits from intervention programmes (Sigel & Perry, 1968 as cited in Sigel, 1990; Shipman, 1971).

Influence of ICDS Preschool Experience on Children's Specific Classroom Behaviours

Influence on children's classroom behaviours was mainly studied on the basis of teacher's ratings of children's behaviour. However, information was also supplemented through the qualitative observations maintained while testing children on developmental assessment checklist and the reading readiness test.

A 2 x 2 analysis of variance was computed to detect differences between groups (ICDS and NPSE) and schools (children from school 1 and school 2) on the measure of teacher's assessment of children's specific behaviours. As shown in Table 10, the groups differed significantly ($P<.001$) in their school related behaviours. The difference favoured ICDS children. Differences were also noted between children from two schools. Children from school 2 scored significantly ($P<.05$) higher than

TABLE 10

Two - way Analysis of Variance Indicating Performance of Children on Specific Classroom Behaviours

Source of variation	Sum of Squares	df	Mean Sum of Squares	F	P Level
Groups (A)	1968.30	1	1968.30	43.91	0.001
Schools(B)	240.83	1	240.83	5.37	0.05
A x B	6.533	1	6.533	.146	NS

Note : Groups refer to ICDS and NPSE whereas schools refer to school 1 and school 2

n = 30 for each group and each school

TABLE 11

Means and SDs of Children as per their Overall Performance on Specific Classroom Behaviours

Areas	ICDS Children		NPSE Children	
	School 1 (n = 30)	School 2 (n = 30)	School 1 (n = 30)	School 2 (n = 30)
M	33.67	36.03	25.10	28.40
SD	6.79	5.71	6.67	7.06

Note : n = 30 for each group

children from school 1. A finding which gains support from the observation of schools which will be discussed later. Table 11 presents the means and standard deviations for two groups from two schools as per their overall rating. Whereas, Table 12 presents means and standard deviations for the two groups with reference to the specific behaviours.

As is evident from Table 11 and 12, ICDS children received higher ratings on their specific classroom behaviours, compared to NPSE children. More specifically, ICDS children scored higher on behaviours like; ability to follow instructions, ability to concentrate, independence and degree of alertness in classroom activities. An important contribution of preschool experience therefore appears to be especially towards inculcating skills desirable for formal learning. Evidence shows that classroom behaviour of children who have attended preschool has been consistently rated higher by the teachers than for children without preschool. Children with preschool experience have been found to project a "smarter" image to their teachers and are better adjusted to school (Berman & Zigler, 1983; Clarke & Fein, 1983; Halpern and Myers, 1985). These authors note that preschool participants are more self confident, co-operative, comfortable in a new situation, curious, persistent and possess ability to adapt to structured situations.

Clarke and Fein (1983) speculate that greater social competence of programme children could be due to their greater familiarity with unfamiliar adults. Consequently, they are able

TABLE 12

Means and SDs as per Teacher's Rating of Children's Specific Behaviours.

Behaviours	ICDS Children	NPSE Children
Activeness		
M	2.28	1.68
SD	0.77	0.66
Duration of Adjustment		
M	2.28	1.93
SD	0.60	0.83
Independence		
M	2.53	1.92
SD	0.64	0.66
Problems faced by child		
M	1.85	1.83
SD	0.70	0.68
Concentration		
M	2.55	1.92
SD	0.66	0.71
Following Instructions		
M	2.62	1.88
SD	0.57	0.76
Knowledge of Alphabets and Numbers		
M	2.03	1.72
SD	0.68	0.69
Responsibility		
M	2.33	1.73
SD	0.73	0.65
Regularity in Home work		
M	2.22	1.72
SD	0.65	0.64
Sentence Speaking		
M	2.58	1.85
SD	0.61	0.70

Note : n = 60 for each group. The maximum possible score on each of these behaviours is 3 and minimum is 1.

to co-operate more in assessments and appear more competent. These characteristic behaviour processes can perhaps help children to survive in the school system. This is in view of the assumption that teachers in primary school may be more willing to attend to children who are alert and demanding rather than those who are listless and withdrawn (Myers, 1989).

Observations of children during their assessment on various measures indicated that ICDS children were verbally more expressive, curious, responsive and indicated greater interest and involvement in tasks. Whereas, NPSE children could not follow instructions easily, were withdrawn, lacked concentration, seeked help from adults and their pronunciations were unclear (See Figure 8).

As indicated by teacher's ratings and supplemented by observations, ICDS children manifested behaviours which could be considered facilitative to their performance at any organized learning task. These are some of the relevant school related behaviours which could be directly attributed to the influence of the programme. Apparently, therefore, there is a need to account for these behaviour processes as they affect the possible outcomes in children. A detailed information regarding children's characteristics would help in maximizing early intervention effects and also ensure that inputs are expended in a meaningful way (Zelman 1971-1972). These desirable school relevant behaviours could be considered pre-requisite to formal learning. It has been noted that attributes like inquisitiveness

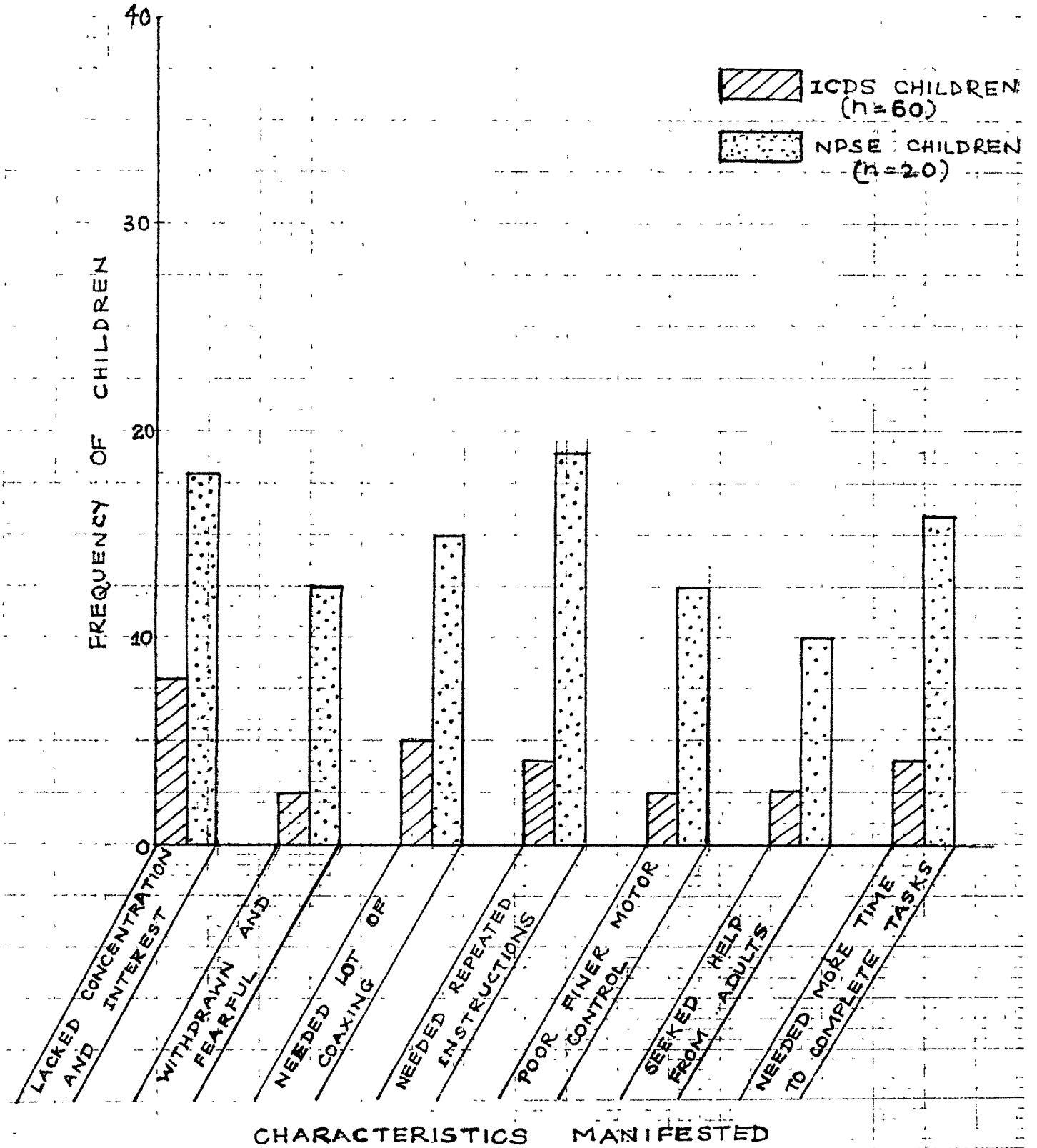

FIGURE 8 : Behaviours Manifested by Children during their Assessment on Developmental Skills

and perseverance facilitate cognitive abilities as they support effective cognitive functioning (Zimiles, 1982).

Thus, it could be concluded that it is necessary to pay attention to characteristic behaviour processes in children along with their performance on various tests. As has been pointed out by Zimiles (1982) that mere dependence on test scores would fail to yield information on issues of concern because scores are influenced by characteristics of children which may have nothing to do with the properties of the programme.

Extent of Influence of Home on Children's Reading Readiness

The last research question of the present study was to find out the extent to which children's performance (on reading readiness) could be attributed to difference in their home environments. This question was further divided into two parts. The first part dealt with finding out the influence of total home stimulation on children's reading readiness. The second part was concerned with finding the influence of a sub-scale of home; language stimulation on children's performance on reading readiness.

On the basis of the scores obtained on the home inventory, children were categorized into those coming from high stimulation homes and those coming from low stimulation homes. Using these categories of home as the predictor factor, one -way analysis of variance was computed to determine, if the level of home

stimulation affected children's performance on the reading readiness.

The findings revealed that the total level of home stimulation did not account for significant variation in the scores obtained by children on the reading readiness test. The 'F' value was non-significant (see table 13). Furthermore, the means and the standard deviations for children coming from high and low stimulation homes are presented in Table 14. There was a difference in mean scores of two groups and the difference favoured children from high stimulation homes but the difference was not significant. Thus the overall level of home stimulation did not account for significant difference in children's reading readiness performance.

As language stimulation in home is considered an important feature affecting childrens' performance, attempt was made to find out difference between children who come from high and low language stimulation homes, with regard to their performance on reading readiness. To determine whether children in these two groups differed significantly, 't' test was employed. As shown in Table 15, there was a significant difference between the two groups and the difference was in favour of children from high language stimulation homes. The difference was significant

TABLE 13

One-way Analysis of Variance of Readiness Scores of ICDS Children from High and Low Stimulation Homes

Source of variation	df	Sum of Squares	Mean Sum of Squares	F	P Level
Between groups	1	91.20	91.20	.9377	NS
Within groups	12	1167.15	97.26		
Total	13	1258.35			

TABLE 14

Means and SDs of ICDS children from High and Low Stimulation Homes with Regard to their performance on Reading Readiness.

	Mean $\bar{X}$	Standard Deviation SD
Children from High stimulation Homes	48.40	5.33
Children from Low stimulation Homes	42.75	13.91

Note : n = 10 for children from high stimulation homes and 4 for children from low stimulation homes.

TABLE 15

't' Test Comparing Reading Readiness Performance of Children from High and Low Language Stimulation Homes

Groups	Mean $\bar{X}$	Standard Deviation SD	t	P level
Children from high language stimulation homes	44.80	8.18	6.63	0.001
Children from low language stimulation homes	32.20	6.80		

Note : n = 34 for children from high stimulation homes and 25 for children from low language stimulation homes.

($P < .001$). Examination of data revealed that majority of children who obtained high scores on reading readiness also scored high on language stimulation and were from ICDS group.

Hence, the kind of language stimulation provided emerged as a dominant feature affecting children's performance on reading readiness. Evidence indicates that absence of verbal interaction in children's home environments is detrimental to their learning and development (IDRC/UNESCO/UNICEF, 1988). In fact, language stimulation has emerged as a home environment variable significantly affecting all aspects of academic performance (Lohani & Mohite, 1990). The point is further elaborated through the documentation of the fact that children's learning and development is accelerated through interaction; mainly through talking, reciting rhymes, story telling and encouraging the child to talk (IDRC/UNESCO/UNICEF, 1988); in other words a verbally stimulating environment wherein child and the caregiver are frequently engaged in conversation (Phillips, McCartney & Scarr, 1987). Thus the potential importance of language stimulation in child's learning environment cannot be ignored. Efforts to enhance child's learning and development should therefore focus on quality of mother - child interaction.

The last section presents information based on the qualitative observations of two primary schools.

Descriptive Details Characterizing Primary Schools

The schools were observed in order to find out what happens in the classrooms in which children enroll. The objective was to understand and document the setting as well as the school processes, likely to affect children's learning. It was assumed that such observations would elucidate some of the key factors affecting children's learning in school and information thus gathered would provide a context in which other findings from the study could be explicated. It would also provide important direction for future research in this area.

The observations are discussed under following three sub-headings :

- o Physical environment and the daily routine of schools
- o Teaching learning strategies in the classrooms.
- o Attitudes of teachers towards their profession and children

Physical Environment and the Daily Routine of the School

The situation that prevailed in the two schools was to a great extent typical of Indian municipal schools catering mainly to children from lower socio-economic groups. Large congested classes, poor physical facilities and inadequate teacher attention were the highlighting features of the schools. It is therefore reasonable to expect that within these constraints children would fail to benefit from the schooling experience.

Halpern and Myers (1985) also note that large classes, few instructional resources and poorly trained teachers are common prevailing conditions amongst schools in developing countries. Hence, the newly acquired skills that preschool participants bring to the schooling experience may be less influential.

As far as physical set up is concerned, it was found that the size of the classrooms was inadequate in relation to the number of children (10 x 10 sq. ft. for 65 children). Ventilation in both the schools was poor and walls were dull and dirty. The only ornament of the classrooms were a few old posters of national leaders displayed much above the child's eye level. Classrooms were seggregated by sex and girls were made to sit on mats whereas boys had the facility of desks. A balwadi for young children was annexed to the school building in school 1. Head teacher's office in both schools was seen to contain number of posters, charts, globe and other reading writing instructional materials but apparently these were rarely used. No equipment was provided to children for indoor or outdoor play.

Both the schools housed two shifts, morning and afternoon. The daily time table revolved around teaching of mathematics, environmental science and Gujarati language. These subjects were not taught for any fixed length of time. Half an hour recess was observed in both the schools but children from school 1 were often found to break for recess earlier than the scheduled time. During recess children would rush outside to play, to eat or to buy some eatables from the vendors. This seemed to be the child's

world. Children were seen to play with marbles, skipping ropes and dice. Games like "kho - kho" and cricket were common. Hitting and quarrelling was also observed especially among boys. The day ended with the mid - day meal provided by the school.

It is important to focus attention on the material inputs available in schools, as they have been found to be related to student's achievement. Evidence from developing countries indicates that text books, school libraries and length of teacher's training are factors responsible for student achievement (Fuller, 1986).

Teaching Learning Strategies in the Classrooms

The situation observed most frequently in classrooms was emphasis on rote learning whereby children were endlessly seen to repeat words and sentences or copying from the black board. It has been seen that majority of schools which cater to lower socio-economic populations, share depressingly common negative factor; rote learning, wherein memory is supposed to function as a crutch for inability to understand (De Souza, 1974). The author while speculating for possible reasons, explains that it could be because of large classes which leave no scope for individualized teaching or may be teachers are not familiar with creative, problem solving teaching techniques because they too have been products of rote learning.

Teacher pupil interaction was mainly instruction oriented with the teachers playing a dominant role and children not given enough opportunity to express themselves. Learning through interaction with adults was discouraged. A repetitive observation was to find teachers discouraging children whenever they attempted to approach them with a query or to show their work. This element was more a characteristic of school 1. Complicating the situation further were the harsh disciplinary techniques used by teachers. A considerable amount of time was spent by teachers in simply bringing children "to order". The mode of control being mainly corporal punishment. Physical punishment was prevalent in both the schools.

However, the style of teaching in the two schools was somewhat different. Emphasis in school 1 was on rote learning. Conversely, in school 2, the teacher also used environmental objects like stones and leaves to teach beginners counting. Children were asked to fill in the blanks to ensure their knowledge regarding numbers and alphabet was not rote. Teacher paid attention to all children and provided individualized instruction to children facing difficulties. An added advantage in school 2 was the presence of a supervisor who closely and regularly monitored the classroom activities.

Teachers were expected to fill number of proformas and conduct family planning activities. Teaching was often suspended as these tasks were executed during the class hours. Teachers were also found to engage in "idle" talking resulting in

inattention to children. Consequently, the time spent on actual meaningful teaching was minimal. Evaluation of 400 primary schools in Thailand has found that actual teaching time in schools is alarmingly less than expected (Chantavanich, Chantavanich & Fry, 1990).

Assessment in both the schools consisted of four examinations in a year (two oral and two written). However, the policy of automatic promotion was prevalent in the schools.

Attitudes of Teachers Towards Children and their Profession

Teachers from school 1 had undergone primary teacher's training whereas the level of qualification for teacher from school 2 was B.SC. B.Ed.

As far as their attitude towards their profession was concerned, it was viewed as a job that provided good salary and security. Teachers without hesitation mentioned that as they had been working for number of years they had lost interest in teaching. 'Anomie and burn-out' or in other words saturation with the job has been found to affect older teachers and is an important factor influencing school quality and efficiency (Chantavanich, Chantavanich & Fry, 1990). Teachers felt very secure about their job and expressed job satisfaction in terms of salary. When the teacher with B.Sc. B.Ed. qualification was asked why she chose to work in municipal school; she said, "there is job security, there are more facilities in terms of

increments, pension etc.; and one does not have to give donations to get the job as is the case in some private schools".

With regard to attitudes towards children, teachers mentioned that the responsibility for educating children was with them, as parent's were indifferent towards their children's education. Although teachers did express sympathy towards children's backgrounds yet they did not understand the limitations posed by such a background. Children's lack of response was attributed to lack of commitment on the part of parents and children's lower mental abilities. Although research has established that it is a myth that minority parents do not care about their children's education. Perhaps, it becomes easier for educators to give up on trying to involve them (Chavkin, 1989).

Both the parents and teachers seemed to blame each other for children's inability to learn. Parents were vociferous in demanding improvement in teaching because they felt teachers did not make efforts to teach children. On the other hand, teachers indicated their helplessness and felt nothing could be done with these children. No formal or informal meetings were organized with the parents. Only when a child was irregular for a long period, did the teachers enquire about the home situation. Parents were seen to come to leave children and take them but their presence was not utilized by the teachers. Chavkin (1989) notes that minority parents are not invited to participate

because appropriate structures and strategies do not exist for involving them.

The key factors likely to affect children's learning, which emerged from the observations of the schools are delineated below :

- Teachers lack of interest and indifferent attitude affected quality of teaching and thereby children's learning
- Inadequate monitoring and supervision reduced teacher's accountability and thus affected their efficiency.
- Commitment of both parents and teachers towards children's learning was affected because of lack of parent -teacher interaction.
- Repetitive teaching style and harsh disciplinary practices seemed to mar child's natural inclination for learning. However, comparatively better teaching style of the teacher from school 2 demonstrated what a teacher who is slightly different can do in influencing children's learning.

> "Teachers should assess where the limits of their responsibility for the learning outcomes of the children of poor really lie. Perhaps, these limits could be extended a bit so that such children may have a chance in the world that is mostly being built against them" (Avalos, 1986, p.164)".

Salient Features of Findings Related to Primary School Children

- ICDS children were significantly ahead of NPSE children on all aspects of reading readiness except auditory discrimination skills, where performance of both groups was poor.

- ICDS Children when compared with NPSE children from similar socio-economic background continued to score significantly higher on various aspects of reading readiness.

- Individual differences were also noted within ICDS and NPSE children with regard to their performance on reading readiness.

- Primary school teachers rated ICDS children significantly higher than NPSE children on specific classroom behaviours. A finding which was supported by qualitative observations of children.

- The overall level of home stimulation did not account for variation in children's performance on reading readiness. But language stimulation that children received in their homes was a dominant feature affecting children's performance on reading readiness.

- Poor physical facilities, repetitive teaching style, harsh disciplinary techniques, lack of parent - teacher interaction, teacher's lack of interest and inadequate

supervision were some of the factors which affected quality of teaching in primary schools. But a comparatively better teaching style of teacher from school 2 highlighted where within the given system of primary schools possibilities for change lie.

A Brief Pen Picture of ICDS and NPSE Children

An attempt is made here to highlight some of the characteristics of ICDS and NPSE children with illustrations from the data. This would provide insight into some of the subtle differences between the two groups, over and above those which could be tapped through standard testing procedures.

A first general observation was that ICDS children were responsive and expressed their willingness to participate in activities. Their involvement was further supported by their attempts to seek clarification before beginning tasks and taking advantage from cues. By contrast, NPSE children were less friendly and the presence of an outside adult was threatening for the child. Some of these children, especially in the younger age group would hide or start crying as the investigator approached them. ICDS children were inquisitive and indicated their eagerness to experiment with test materials. Testing situation was perceived as a play activity as Manoj inisted on knowing what else was there in the kit bag. Rakesh and Chanda pleaded, "We want to play with all the games once again".

Some interesting responses were given by children irrespective of groups. In response to item on, "functions of body parts," children said, "ears were meant for wearing earrings, or to be pulled by parents" and "eyes were meant for sleeping". When the investigator asked Devi, "Why are you not able to copy simple shapes and lines ?" Devi replied, "Whenever I sit to write on the slate, children from my neighbourhood come and wipe it away. So how can I learn in such a situation!" Of interest was the reason given by Rajini when asked by the primary school teacher why she came late everyday. Rajini replied, "I leave my home in time but lot of time is wasted because of heavy traffic at every crossing, therefore I get late".

Majority of NPSE children although slow in responding to test items were more eager and able to work on items which were task oriented, for instance, creating a pattern from beads, colouring or paper folding. But they were not willing and able to respond to items which required verbal responses. Their vocabulary was limited and they were restricted in using qualifying terms. For example, they were able to state functions of objects but were unable to label them. These children spoke incomplete sentences, their pronunciations were unclear and while responding to pictures depicting specific action, they said, "is doing something","is working" or would demonstrate the action but were unable to verbally explain the action.

The NPSE children were found vigourous and energetic in free play situations but demonstrated dependence on adults and sought

their help while attempting certain school related tasks. It was difficult to coax them to participate in activities they did not wish to participate. On the other hand the ICDS children showed persistence at tasks, greater confidence, interest and involvement. Teachers also perceived ICDS children to be more competent as per their remarks that, "they are overactive, enthusiastic and responsive". Whereas, NPSE children were labeled as dull, dumb, not responsive; teacher's further remarked that some of them could not give their own names.

Of importance was the observation with regard to two girls from ICDS group who obtained a very high score on the reading readiness test. Contrary to the expectation that these children would belong to "good" homes, it was found that their home environment was not conducive to learning. Inadequate space, poor ventilation, poor economic condition and illiterate parents were the elements which characterized their home situation. What was the factor responsible for their high performance? Their mothers had very clear future educational and job aspirations for them. In one case the mother said, "Come what may I want to educate Sona till B.Com." While the other said, "I want Sajana to learn accounts and work as a clerk in the bank." Perhaps, apart from learning opportunities available to children at home, it may be these parental attitudes and expectations in which children's learning is embedded.

ICDS children were verbally more expressive whereas NPSE children talked only when asked to do so and that too with little enthusiasm. They exhibited fear of failure, had poor attention

span and needed repeated instructions and sometimes even demonstration. Majority of NPSE children began working on test items with a response, "I do not know". It could be assumed that greater co-operation, verbal skills, curiosity and responsiveness which characterized ICDS children would help them trigger positive reactions from their teachers and consequently cope with the demands and constraints posed by primary schools. Whereas, fear of failure, resistance to adults and lack of concentration demonstrated by NPSE children would inhibit their success at any learning task.