

Research Paper :

Assessment of cognitive abilities of rural children

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ABSTRACT

The study was conducted in randomly selected three villages of Hisar district namely Durjanpur, Singran and Dhani Kushal on randomly selected 90 children from Anganwadi and nursery schools to assess their cognitive abilities in terms of perception, classification, reasoning, language and memory and concept formation. The children were placed under low, medium and high categories on the basis of optimum scores obtained on particular parameter of cognitive abilities. Comparative cognitive assessment of children from indicated that nursery school children performed better than Anganwadi children on all parameters of cognitive abilities. Majority of Anganwadi children's performance in terms of memory and concept related aspects was of low extent, however on perception and language related parameters it was of medium extent. Majority of children from Anganwadis could classify means of transport and utility items but they performed very badly in classifying colours and size. Performance of nursery school children in terms of perception, reasoning, memory and concept related parameters was of medium extent in majority of cases, however their language abilities were of high extent in more than fifty per cent cases. .

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Children form the nucleus around which future of any nation revolves around. First five years of a man's life generally termed as preschool years are the most crucial and critically important in relation to his overall growth and development as a complete human being. Children from this age group form the major chunk of our population. Development of child is multidimensional task involving various interrelated aspects and pre school years are of paramount importance in relation to cognitive abilities development. Swiss psychologist Piaget gave sequential description of cognitive ability attainment from birth to throughout life. Psychologists over the years have given various theories of cognitive skill formation, which have been accepted or refined by modern scientists and researchers. It has emerged during various researches that environment plays a critical and decisive role in cognitive skill information. Qualitative variation in environment affects the cognitive abilities among children and they acquire cognitive abilities faster and easier in conducive and stimulating environment than non-stimulating environments. There is no denying fact that parents being the primary agents of child development exert enormous influence on cognitive development. In addition to home, Anganwadis and nursery schools also act as the major environment for cognitive ability development among pre school children. Comparative cognitive assessment of children from Anganwadi and nursery school can be helpful in identifying qualitative

difference in environment of these two settings and suggest appropriate intervention and strategic measures for improvement. Considering all these facts, the present investigation was formulated to explore cognitive abilities of Anganwadi and nursery child.

METHODOLOGY

The study was conducted in randomly selected three villages of Hisar district namely, Durjanpur, Singran and Dhani Khusal. As the study required sample of pre-school children, therefore purposive sampling technique was adopted for selecting locale of the study *i.e.* selection of Anganwadis and nursery schools, however sampled children were randomly selected from the listed children of Anganwadis and nursery schools available in the selected villages. Due care was taken to select children who were regular in their attendance. Thirty children from each village *i.e.* 15 each from Anganwadis and nursery school attached with government schools were taken. Thus, a total 90 children *i.e.* 45 each from Anganwadi and nursery school in the age group of 4-5 year were taken to assess the cognitive abilities. Scale developed by Namita *et al.* (2000) was used to measure cognitive abilities on six parameters *i.e.* perception, classification, reasoning, language, memory and concept formation. The children were placed under low, medium and high categories on the basis of optimum scores obtained on particular parameter of cognitive abilities.

FINDINGS AND DISCUSSION

Regarding perception related cognitive abilities of children from two environmental surroundings as given in Table 1, it was observed that 55.55 per cent of Anganwadis children had medium level of perception abilities and 44.44 per cent were placed under low category. However, none of the children was found under high category. In case of nursery school children, it was found that 82.22 per cent nursery school children had medium level of perception related abilities followed by low *i.e.* 17.77 per cent and none of the school children had high extent of perception abilities.

Categories	Anganwadi (45)		Nursery school (45)	
	Frequency	Percentage	Frequency	Percentage
Low (up to 9)	20	44.44	0	0.00
Medium (10-18)	25	55.55	37	82.22
High (19-28)	0	0.00	8	17.77

Data incorporated in Table 2 indicate the classification related cognitive abilities of Anganwadi and nursery children. Regarding classification abilities it was found that maximum number of Anganwadi children *i.e.* 73.33 per cent were able to identify utility items followed by means of transport (71.11 per cent), however, 48.88 per cent of them could classify birds and animals. Majority of angawadi attending children performed very badly while classifying objects according to colour and size as their per centage was very low.(11.11% and 4.44%, respectively). With regards to nursery school children it was observed that all of them could identify utility items and means of transport. Quite huge majority of them had the ability to classify colour (97.77 %) and birds and animals (93.00%) while 84.44 per cent of nursery children were observed to possess ability to classify objects according to their size.

Categories	Anganwadi (45)		Nursery school (45)	
	Frequency	Percentage	Frequency	Percentage
Colour	5	11.11	44	97.77
Size	2	4.44	38	84.44
Utility items	33	73.33	45	100.0
Means of transport	32	71.11	45	100.0
Birds and animals	22	48.88	42	93.0

Information regarding reasoning abilities of children is given in Table 3. It was found that very high percentage of Anganwadi children was reported to have reasoning abilities of low extent (93.33 %) and the remaining *i.e.* 6.66 per cent had low level of reasoning abilities. None of the children from Anganwadi had high level of reasoning abilities. In case of nursery children, it was found that majority of them fell under medium extent of reasoning abilities (86.66 %) followed by those with high (8.88 %) and low (4.44%) reasoning abilities, respectively. The data clearly indicated that majority of Anganwadi children were under low category of reasoning abilities while those from nursery school were under medium category in terms of reasoning related cognitive abilities.

Categories	Anganwadi (45)		Nursery school (45)	
	Frequency	Percentage	Frequency	Percentage
Low (1)	42	93.33	4	8.88
Medium (2)	3	6.66	39	86.66
High (3)	0	0	2	4.44

Data presented in Table 4 indicate that language related cognitive abilities of 84.44 per cent Anganwadi attending children were of medium extent followed by 15.55 per cent having low level of cognitive abilities and none of the children had high level of language related cognitive abilities. Data pertaining to nursery school children in terms of language related abilities indicated that 57.77 per cent children had high level of language abilities followed by 42.22 per cent who had medium level of cognitive abilities and none of them was under low level of language abilities.

Categories	Anganwadi (45)		Nursery school (45)	
	Frequency	Percentage	Frequency	Percentage
Low (up to 13)	07	15.55	00	00.00
Medium (14-26)	38	84.44	19	42.22
High (27-41)	00	00.00	26	57.77

On the basis of performance of children on various aspects of memory like object recalling, sequential memory and numerical memory, extent of cognitive abilities in terms of memory related parameters was worked out as given in Table 5. It was revealed that 93.33 per cent Anganwadi children had low level of memory related

abilities and remaining 6.66 per cent children were under medium level of memory related cognitive abilities. Not even a single child from Anganwadi had high level of memory related abilities. In case of nursery school children it was found that majority of the nursery school children *i.e.* 68.88 per cent had medium level of memory related abilities and only 4.44 per cent had high level of memorial abilities. It was also observed that 26.66 per cent children from nursery school had low memory related abilities, which was the highest percentage under low category of any parameter in case of nursery children.

Table 5 : Memory related abilities of children (N=90)

Categories	Anganwadi (45)		Nursery school (45)	
	Frequency	Percentage	Frequency	Percentage
Low (up to 7)	42	93.33	12	26.66
Medium (8-14)	03	06.66	31	68.88
High (15-20)	00	00.00	02	04.44

Extent of concept development among selected children as presented in Table 6 indicate that majority of the Anganwadi children *i.e.* 71.11 per cent had low level of conceptual abilities and the remaining 28.88 per cent had medium level of conceptual abilities with no one having high level of conceptual abilities. With regards to nursery school children, it was indicated that 60.00 per cent of them had medium level of conceptual abilities and remaining 40.00 per cent were placed under high level of conceptual abilities. It was further observed that none of the nursery children had conceptual abilities of low extent.

Table 6: Comparative conceptual abilities of children (N=90)

Categories	Anganwadi (45)		Nursery school (45)	
	Frequency	Percentage	Frequency	Percentage
Low (up to 10)	32	71.11	00	00.00
Medium (11-20)	13	28.88	27	60.00
High (21-30)	00	00.00	18	40.00

Conclusion:

On the basis of comparative cognitive assessment of children from two environmental settings *i.e.*

Anganwadi and nursery school, it was observed that nursery school children performed better than Anganwadi children on all the six parameters of cognitive abilities. The findings very clearly indicated that nursery schools provided better environment for cognitive development than Anganwadis. The difference in the performance of Anganwadi and nursery school children on various aspects of cognitive abilities might be due to variation in environmental factors. Williams and Kamii (1986) also remarked that environment has a definite role to play in the development of cognitive abilities and Saini and Jawal (2000) also observed rural-urban differences in quantitative abilities of children. Though Anganwadis are well equipped with teaching aids which help in cognitive development but the children had rare or no access to the teaching aids available at Anganwadi centres. It was observed during the investigation that most of the teaching aids were in completely packed state and were never used by the Anganwadi workers. In spite of scarcity of teaching aids in nursery schools, the children could perform better than Anganwadi children due to dedication and commitment of teachers. It is therefore suggested that orientation training of Anganwadi workers regarding use and importance of teaching aids for cognitive development need to be organized.

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